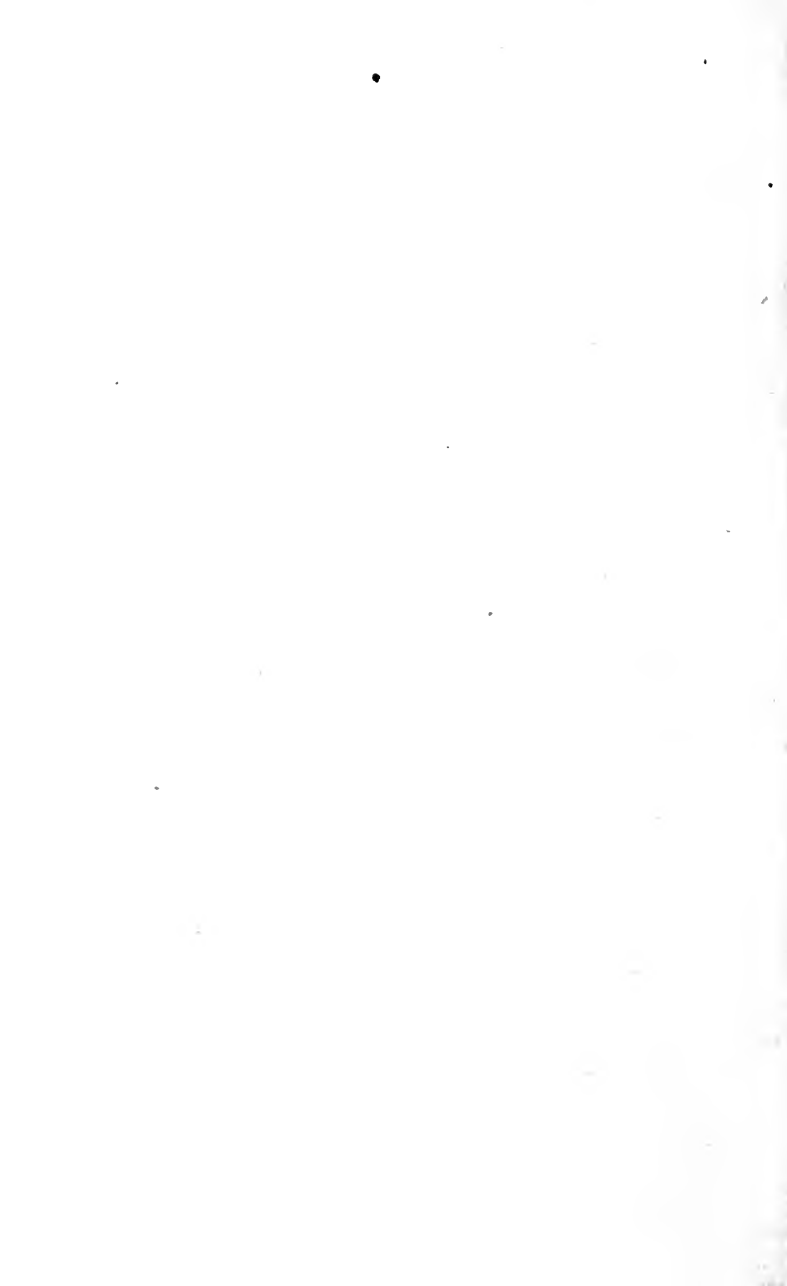


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THE INFANT SCHOOL

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THE INFANT SCHOOL

Its Principles and Methods

BY

J. GUNN, M.A., D.Sc.

Author of "Class Teaching and Management,"

"Sunday School Teaching"

&c. &c.

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THOMAS NELSON AND SONS

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*"It is clear that in whatever it is our duty to act,
these matters also it is our duty to study."*

ARNOLD.

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P R E F A C E.

THAT there is need for a book dealing with the special problems of the Infant School, the writer is strongly convinced. There are two reasons which seem to require that an attempt should be made to deal with these problems at present. In the first place, the Infant School is dealt with in too summary a fashion in most books on School Method, and the importance of its work is by no means adequately represented. In the second place, the general plan on which most School Management text-books are based, that of the Curriculum or subjects of study, is not a plan suited to a discussion of Infant School Management.

In the Infant School the central fact for the teacher is not the Curriculum but the Pupil. This, of course, is true of all schools, but its truth is most evident at the initial stages of education. Hence in this book an attempt has been made to discuss education from the central standpoint—the child to be educated. The writer is convinced that this is the only scientific basis for education, and that from this basis must be deduced alike the curriculum and the method. Apart from this basis, education becomes merely an empirical system of rules and traditions.

To assume this position is to affirm the necessity for a thorough knowledge of children and the laws of their growth, physical, intellectual, and moral. This is a new demand in education, and no text-book yet in existence can supply the knowledge required. Hence much of the essential matter in

the following pages is put forward in somewhat tentative form, and is designed to be suggestive rather than exhaustive. If the result is increased personal study of the problems of childhood by the teachers who may read the book, one important aim of the writer will be attained.

At the present time the physical aspects of education and school life are much before the public, and opinion is being rapidly matured on such points. The prominence given to the physical aspects of childhood in these pages will therefore, it is hoped, be of practical service to teachers.

The writer desires to acknowledge valuable aid from various sources. The parts dealing with the Physical side of education have been read in proof by Dr. F. Leslie-Mackenzie, medical inspector to the Local Government Board for Scotland, whose expert knowledge of the questions involved has made his suggestions and his encouragement of unique value. For similar services regarding the chapters on Drawing and on Singing respectively, acknowledgment is due to Mr. J. Vaughan, Director of Drawing and Manual Instruction, Glasgow, and to Mr. R. MacLeod, Visiting Music Master under the Edinburgh School Board; for excellent Schemes of Work for infants, to Miss Catherine I. Dodd, Lecturer on Education, University of Manchester, and to others who prefer anonymity for the Time-Tables in use in their schools; and to the Publishers of *The Practical Teacher* for Schemes of Work and Time-Tables which have appeared in that journal.

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THE INFANT SCHOOL.

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CHAPTER I. THE SCHOOL.

A Contradiction in Terms:

THE name "Infant School" is seen at first glance to involve a contradiction in terms. If we do not observe the contradiction, it is because we do not always realize the meaning of the words we use; the contradiction is certainly there. If we had no experience of the thing denoted by the name "Infant School," we should certainly find it hard to reconcile the ideas connoted by "Infant" and "School" so far as to combine them into one congruous whole.

2-4-08 The idea of a *school* is familiar to all, and despite its etymology the word does not usually call up to our minds a place of leisure and learning, but rather a place of learning without leisure. The idea of an *infant* is also familiar. To most of us it is much more vague than that of a school, and probably corresponds much less closely with the reality. Still, we have a fairly definite conception of what an infant is, based on experience and observation, however inadequate. The real difficulty arises when we try to picture a school which is a fitting place for infants, or to imagine infants being really scholars. There is an incongruity between the two

ideas which refuses to be resolved. It is difficult to fix on any point which they have in common, from which to start in our search for reconciliation and unity between them.

But the Infant School really exists; and this, it may be said, is a sufficient proof that the ideas are not repugnant or incompatible. The answer would be conclusive if things always corresponded to their names; but to call a thing by a certain name is not always a proof that its nature agrees with the true meaning of that name. As in this case, the name may imply a mixture of ideas which are by no means perfectly reconciled or harmoniously united in the character of the thing itself.

There may be places called Infant Schools which are no fitting places for infants, and there may be scholars called Infants who are either not really scholars, or not really infants except in age. There may be schools where infants become scholars only on condition of ceasing to be infants, while at home they resume the rôle of infants only on condition of laying aside all that marked them as scholars. There may be such Infant Schools. Experience justifies one in saying that there have been such, though one would like to think that they no longer exist.

It is important to realize fully the incongruity that exists implicitly in the name "Infant School," for the more clearly this is realized by the teacher the more likely will she be to reach that practical reconciliation which is the best possible reconciliation for the contradiction implied in the name—that is, the managing of a school so as to make it a fitting place for infants, and the managing of children so that they become scholars without ceasing to be infants.

The Reconciliation:

The key to this practical reconciliation seems to be most directly suggested by the word "Kindergarten." We do not use the word here to describe certain exercises known to all teachers of young children, and found in

Infant Schools of all types. We have before us somewhat of its literal meaning of a "Child-Garden"—a Garden of Children. Our conception of an infant, however imperfect, at least includes the idea of growth. Like the plant to which he has been so often compared in this connection, the child may grow up as the wayside weed, exposed to all the chance influences of his surroundings, or he may grow up as in a garden, tended and nourished into completeness of life and attainment. As growth is the central fact of childhood, the guidance and the direction of this growth must be the central feature of any institution which can be fairly described as an Infant School. Growth in plant or in child is the result of natural causes; all that the gardener or the teacher can do is to modify the surroundings of the growing subject so that its natural development shall not be marred. In order to do this it may be necessary that the Infant School should possess a character somewhat different from that which is usually meant by the word "school;" but as the school exists for the child, the traditions of the school must always yield to the welfare of the scholar when necessary. Only thus can we reach that practical reconciliation of incompatible ideas which the name Infant School embodies. The outcome may be a school whose claim to that title would be disputed by some. The result must *not* be a type of scholar which has lost all claim to the title of infant.

What a Kindergarten is.

The word Kindergarten, it must be remembered throughout, does not mean any subject or group of subjects introduced into schools for the instruction or the amusement of the pupils. It must always be understood to mean a *method of education*. It is to be feared that Froebel's discovery or invention is sometimes regarded as having been that of certain new games and occupations for children. He was not the inventor of the ball, or the cube, or the other playthings which we now use too little as toys, and too

much as means of instruction. What he invented was a *method or system of education*, and a *type of school* in which education should be given by means of play—that is, by the free and spontaneous activity of the child.

While we remember that the gifts are not the essence of the Kindergarten, we must also remember that instruction is not the primary aim of the gifts and occupations. It is *education* which they were designed to aid. Education includes many elements, of which instruction is only one. The outcome of instruction is knowledge, while the outcome of education is conduct or character; and these two results are by no means identical, or even inseparable. Knowledge is, in popular language, an affair of the head. Conduct is the outcome of the entire personality.

We have said that the Kindergarten is a type of school. With equal justice we might say that it is a *type of nursery*. It is, in fact, the connecting link between the nursery and the school, and must combine the essential elements of both. The natural sphere of the infant is the nursery, with all its adaptations to the child's needs—its provision for his pleasure, its freedom from restraint, and its helpful and sympathetic supervision. These and other characteristics are necessary in order that the child may develop as a child; and the same features are essential in the school, if his development is to continue on natural lines. The infant can become a scholar only on condition of the school becoming at the same time a nursery. It is in such a school alone that we find the reconciliation of the contradiction implied in the name Infant School.

Continuity between Home and School.

“Those who sail across the seas change their skies but not their minds,” says the old Roman proverb; and when the infant crosses the threshold of the school door he does not change his nature, but only his surroundings. His needs remain the same, and his desires and tastes and interests continue very much what they were. What was

good and fitting for him at home will be equally necessary in school. His natural propensities require to be considered now as well as before he came under our care.

This *continuity* is the fundamental principle of all Infant School management, and from it may be deduced every rule of Infant School method. The success of the teacher, especially with the youngest children, will depend almost entirely on how far she is able to recognize and to draw guidance from the principle of the continuity of the child's nature.

If the child at home spends most of his time in actively doing things, it is not reasonable that in school he should be required to spend his time in passive looking and listening. If his knowledge has hitherto been gained by handling things, and asking questions about them, he cannot be expected now to learn much from seeing things in the teacher's hands, and answering her questions about them. If most of his activities at home have been directed by his own will and choice, it is not in accordance with reason that in school all his activities should be ruled by the command of his teacher. If at home he has never been known to sit still for five minutes together, it is not wise that in school we should expect him to sit in the same posture for half an hour at a time. The incessant chatter of the nursery, varied only, perhaps, by snatches of what is meant for song, cannot give place to the prolonged silences of the classroom without serious interference with this continuity.

All these undesirable changes may, of course, be forced upon the young pupil when he enters school; and in too many cases some of them, at least, are forced upon him. But this is not natural, and therefore it is not wise. It is entirely contrary to natural tendency, and is an educational blunder. The work of the teacher is not to check natural tendency or activity, but to utilize and direct it; not to substitute artificial and conventional forms for natural ones, but from the natural and spontaneous to

develop just so much conventionality as the necessities of collective work may require, and no more. Education is not the uprooting of natural growth and the planting of new, but skilful training, and pruning, and grafting applied to the growth which is already partly developed.

The Change from Home to School.

It is not desirable that a child should feel, when he first comes to school, that he has made a bad exchange; nor is it necessary that he should feel this. Some curtailment of personal freedom there must necessarily be, for this is always a condition of living with one's fellows. When our pupil takes his place in a commonwealth of similar pupils, he has therefore to submit to the inevitable degree of limitation which this implies; but there are compensations which he should feel to be more than sufficient to balance the loss.

He should feel that all the material advantages of the nursery remain with him. There should still be plenty of scope for activity, and plenty of things to play with—that is, to use as he himself wishes, and not merely as we wish. He should find new companions in his schoolfellows, new games in school and out of it, a new story-teller in place of his mother—the teacher, who knows such a store of tales as he had never dreamed of before. He should discover a whole circle of new and appropriate interests, like the old, but still better. He does not know or care whither all these new things are tending, for the teacher does not trouble him with ideas that have no meaning as yet for him. He only knows that his little life has become fuller and happier than before; and if the teacher can get him to feel this in his own inarticulate way, she is doing all that she can do for his real education.

And if the child has no nursery at home, and no play-room but the pavement, which is too often the case, the school should present still more of a change for the better to him. His surroundings are now, for the first

time, really adapted to his nature. School, for such a child, may be more of a change than it is for one who has had better home conditions ; in this case, however, the change is not contrary to nature, but in better accord with nature. And the child himself will *feel* this, though he does not *know* it, and his nature will respond to the teacher's efforts to give him some of those joys of which his childhood has been defrauded. Whatever may have been the child's previous experiences, he should feel that the change to school is a change for the better and not for the worse. But this is something which must be *felt* ; it is not to be explained or proved.

The Child's Adaptation to the School.

There may be some who regard the type of Infant School for which we are pleading as impossible and unnecessary, a counsel of perfection, or a modern fad. They may urge that we are raising difficulties which do not really exist. The child soon falls into the ways of school life, even though the school be of the most rigid and cast-iron type. He soon learns the conventional decorum of the classroom, and becomes as much at home there as he was in the unrestrained freedom of the nursery.

Unfortunately this is true, and herein lies one of the dangers of the Infant School. The young child is extremely plastic. He *does* soon learn to curb his natural spirit, and to become the demure citizen of the artificial school world. He will listen to the most uninteresting and incomprehensible lesson with surprising decorum, and at times with the most laudable absence of fidgeting or yawning, though in this matter nature is often too strong for convention. And he will endure all this without feeling that degree of misery which one might reasonably expect him to suffer ; nay, he will even enjoy a certain amount of negative happiness through it all. He will learn to extract a measure of positive enjoyment from the most unchildlike exercises, supported by the sympathy of numbers and by the desire to please his

teacher. Were it not for this surprising and even dangerous faculty of making the best of his surroundings, and of growing to the form of the mould into which he is pressed, reform in our Infant Schools would have come much earlier than it has come, or the schools would have ceased to exist as an outrage on humanity.

How did this fatal plasticity of childhood affect the pupil in a school of the type which was once so common? The system made no attempt to develop the inhabitant of the nursery into the citizen of a wider republic. There was no connection between the two spheres. The real or Nursery infant was suppressed, extinguished, or allowed to perish of inanition. In his place the Infant School infant was created, an artificial *simulacrum* of a child, which was then subjected to the orthodox processes of moulding and polishing according to the counsel of the Code—first a “Junior Infant,” then a “Senior Infant,” and at last fitted for “Standard I.,” but missing all the time the chance of being simply an ordinary human infant. And the natural plasticity of the child made this possible, often without either child or teacher feeling that anything was seriously wrong.

Living in Two Worlds.

At home, however, the child was treated very much as before. He had therefore to move in and adapt himself to two distinct and unrelated spheres. He was one child at home, and another child in the school; but in neither sphere did he attain to the possible perfection of his childhood. In the one place one side of his nature, and in the other another side of it was developed, but without any relation to each other. He was nowhere treated as a unity or a personality. Certain aspects alone were regarded in school, for the teacher had in view an abstraction which was not a child at all; it was not a real child, but only an Infant School child. The home interests, as we may call those which the child brought to school with him, which represented most nearly the real child, were left to take care

of themselves, and a new set of artificial school interests were developed in their place. The motive power of spontaneous activity, which ruled in the nursery, was left out of account and allowed to become dormant, and a new and often very artificial motive power had to be developed to take its place—for some motive power from within is a condition of work being done at all. Play and work were regarded as two distinct and contrary if not irreconcilable things, instead of being the same thing under different aspects. The world of school was a sphere distinct from the world of home and out-of-doors, instead of becoming an organic and important part of the one great child-world. This type of school failed to educate, not because it did not influence or mould the child, but because its moulding did not take account of the whole child, and its influence did not foster the harmonious growth of the child as a unity.

Home and School Correlated.

Such errors as these it is the aim of the kindergarten type of Infant School to avoid. It recognizes, in the first place, that the school exists for the child, and not the child for the school. The form of the school, therefore, must be determined in every respect by the needs of the child; the nature of the child is not to be conformed to the aims of the school. This type of school further recognizes that the child is a unity which grows and develops as a whole, and that the process of growth is continuous throughout. The development which has proceeded so far in the home is next to be advanced to further stages in the school, and there must be continuity in the processes by which that growth is aided and directed. It recognizes that those motives and springs of action which have characterized the child up to the beginning of school life are still active, and that the teacher must rely on the same motives to carry him on to still further stages. Whatever change may take place will be in the direction of adding new interests and motives to those that already exist, and not of repressing

the old and substituting the new. The old is to be retained, but enriched and enlarged by the gradual addition of what is new, the addition being not a mechanical process of building up, but an organic process of growing up.

Childhood a Part of Life.

Further—and this is perhaps the most far-reaching difference of all—such a school recognizes that childhood is a *part* of life, and not a mere *preparation* for life. The child is not merely going to live by-and-by; he is actually living now. As a living person, the child has his rights as well as his duties. And surely the most obvious right of childhood is the right to happiness—to enjoy life, or to “have a good time.” Happiness is not merely a gift which we may give or withhold, just as seems best to us; it is a necessary of life to a child. Without the enjoyment of life, which is the very essence of a normal childhood, the child cannot develop as he should. Nothing else can take its place. A childhood starved in this element entails a maturity which will fail in some respect to reach its best.

The Importance of Happiness in School.

This does not, of course, mean that school life should have for its sole aim the present pleasure of the pupil. That is neither necessary nor possible. The child has no conception of the fuller life to which he is hurrying on, and the experience and foresight of the teacher must be the guide to better things than the instincts of the child would ever reach. But in the midst of preparation for the future the present is not to be lost sight of. The teacher must bear in mind that the present time is a real part of the child's life, and as such must be considered in the programme of his living. The prospect of future good, even the certainty of future good, cannot quite make up to him for the unhappiness of the present. The unhappiness of childhood is a real thing—just as real as the unhappiness of adult life. And once more that fatal plasticity of childhood must be

taken into account—a quality which tells much in favour of all educative influences, but which gives great power to influences that tend to mar the nature—and we must remember that unhappiness at this period may leave scars upon the nature of the individual which all his after life will not see eradicated. The suffering may be very unreal from our point of view, and the unhappiness may seem very unreasonable, if we persuade ourselves that the child *ought* to be happy; but if the simple fact remains that he is *not* happy, our logic will not prevent injury to the child's nature.

While these remarks apply with special force to the Infant School, on account of the youth of the pupils, they are absolutely true of all school life. The school which a boy dislikes is for him a failure, however much other boys may profit by it, however excellent may be the programme of work, and however high may be the aims of the teacher. Work which is unpleasant never secures the heartiest co-operation and the fullest activity of the pupil, and without this co-operation and activity the educational effect of the work done is very much impaired.

Its Bearing on After Education.

Education, again, is never completed with school life, however much that may be prolonged, and all that we have the opportunity of doing in our common schools is merely to give the pupil a certain grasp of the instruments by which he may afterwards carry on his own education. If, therefore, we contrive to make the use of those instruments of education distasteful, we cannot expect the pupil to find much pleasure in using them in after life. And if he does make use of the tools which we have trained him to use, but also to hate, we cannot claim much credit. He does so in spite of us, rather than through our influence.

We feel confidence in the future of a boy who finds his school life and work pleasant. His school and his teacher may not enjoy a very high reputation with those who judge

by certain outward and conventional marks ; yet he is more hopefully placed as regards education than the boy who is being brilliantly polished by a perfect process with which he has no sympathy, or which he cordially dislikes. Even as regards the lower aim of getting the best work out of our pupils in school, it pays in the long run to consult their happiness. In view of the wider aim of making our school work tell upon the whole life of the pupil, this is a necessary condition of reaching the best results.

Pleasure Inherent in Work.

Children are usually much happier than we might expect them to be from a consideration of their circumstances. However unlike bees in their industry, they are bee-like in this at least, that they seem to find sweets in every flower. Even in the most unchildlike school there are compensations in the playground and among companions. Even in the most mechanical drill in arithmetic there may be the pleasure of surpassing some one else, of gaining the teacher's applause, or at least of avoiding her censure. In most circumstances there is the possibility of pleasure for a child. But it is not always the kind of pleasure which tells most for education. That pleasure must be developed from more natural sources—natural in the sense of being inherent in the work, because that work is in harmony with the impulses and interests of the child.

The infant teacher who is not afraid to begin by letting her children *do what they like*, will usually find it possible very soon to make them *like what they do* under her suggestion and guidance. But this liking must be spontaneous and natural, in being based upon the laws of child nature. It must not be an adventitious liking—a kind of artificial sugar-coating for a pill which is in its essence disagreeable and bitter. The liking which is of educative value springs from the fact that the work is in accordance with the nature of the child, and affords exercise for his spontaneous activity. There is little value in the work being associated with some

extraneous pleasure, in the form of reward, or of praise, or of superiority over competitors. The use of such stimulus need not be wholly condemned, and may be justified from some points of view, but it is at the best playing with edged tools. Such extrinsic stimulus can become necessary only when the teacher has failed to secure that intrinsic and entirely safe and justifiable stimulus—the pleasure which accompanies the exercise of every natural power of body or of mind.

Work and Play.

The work ought to derive its pleasantness from its being to the child an end in itself, and not merely a means to secure some further end. That is equivalent to saying that to the child the work should present the essential characteristics of what we call *play*, which is the real and natural work of the child. If it is true of the student that he learns only by doing, it is equally true of the young child that he learns only by playing.

(The essential difference between work and play is sometimes forgotten or misunderstood. The difference is not that work is difficult and play easy. We often exert ourselves in play to a much greater degree than we ever do in our work. Nor is the difference in the kind of exercise. The occupation with which we amuse our spare time may be precisely the same as that by which another man earns his living. But to him it is work, while to us it is play. The difference lies in the fact that he performs it for an extrinsic end—for the reward in money which it brings to him; while to us the end in view is simply the doing of the work. It is play to us because it is its own end, or is an end in itself. Even a sport which is usually practised only as play may cease to be so if it is engaged in for the sake of some reward attached to it.

The Function of Play.

Play, accordingly, at any period of life, may assume many forms. It may be anything which affords natural

exercise for our powers, physical, intellectual, or emotional and moral. And in nature play is never purposeless; it has a definite function to serve. Alike in the child and in the young of other animals of a high type, play is an instinctive activity whose end is to develop by exercise the powers which will be needed in later life. We usually say that an animal plays because it is young, and this is so far true; but it is not the whole truth. We should be equally justified in saying that an animal has a period of youth in order that it may play. The less the play that is needed to develop its powers, the shorter is the period of youth which any animal enjoys. In man, accordingly, the highest of all, where training of the powers is most conspicuously needed, youth is prolonged far beyond what it is in any other species; and the end of this, so far as the purposes of nature are concerned, seems to be that man may have a longer period for play than any other animal.

It is at once clear, when we think of it, that in civilized life we have gone even beyond nature in this matter. The complexity of modern life has led to what we may consider an excessive prolongation of youth, or the period of education. But we can see in this a following out of nature's plan. Just as the higher animal requires a longer period of play-education than the lower, so the civilized man needs a longer period of education than the savage in order to fit him for his more complex life.

Play, then, is nature's curriculum for the young. In the simplest societies instinct is the only and the sufficient teacher; for instinct, acting in the form of imitation, directs the child to practise those things which he sees his elders doing, and which are also the things that it will be necessary for him to do by-and-by.

Instinctive Play Inadequate.

In our country and age the play instinct would hardly lead to the acquisition of all the arts that it is desirable for the young to master. As a result, we are apt to forget

entirely the educative nature of play, and to assume that learning and playing are antagonistic to each other. This is a mistake. The two, so far as they are two and not one, should reinforce and supplement each other. Human instinct is not an unerring or an adequate guide, but it is in such absolute accord with the laws of life that it forms a very safe indication to the teacher as to what powers it is best to exercise at any given period of the child's life. So it follows that the work which is most akin to natural play is at the same time best for the exercise and development of the child—in other words, is most truly educative.

To realize the importance and the meaning of that spontaneous activity which is either play or is closely related to it, would do much to check one of the worst vices of our schools—namely, the striving after precocity. We are always trying to hurry nature. We attend too much to the “learning” which is implied in the word “school,” and too little to the “leisure” which that word should also bring before our minds. It is in matters intellectual that we sin most in this way. We do not teach a child to walk before his limbs are fitted for that work, perhaps simply because we cannot. If it were possible for us to hurry nature in this particular, the result would only be harm to the child. In his mental development nature seems to have left the child more at our mercy. In his intellectual training we are not always ready to postpone instruction in any subject till nature gives us the hint that the proper time for it has come. We often introduce our subjects of instruction at so early an age that we leave no room for the pleasure which would accompany the exercise if it were suited to the pupil's state of development and within his powers of accomplishment. At the same time we weary ourselves in the attempt to produce a precocity of attainment which is, after all, a spurious and evanescent perfection. If we could put off the teaching of reading till our pupil either shows some desire to learn

it, or begins in some way to "play" at it, we should be on sure ground as to the proper time for beginning that subject. So with counting, and with the use of the pencil, and all the other forms of work which are common in school. But we cannot always follow this plan.

Nursery Play and School Play.

While play is the chief connecting link between the nursery and the Infant School, there are some differences between the play of the nursery and that of the school which we may notice here. Usually the nursery play is entirely spontaneous and even haphazard, and it is for the most part individual or solitary. The school play must be as far as possible spontaneous, or it is not true play at all; but at the same time it must be for the most part suggested, regulated, and collective.

Where there are nursery playfellows they are of different ages, and joint games involve more or less subordination among the players. In the Kindergarten or Infant School there is no distinction of rank due to difference of age. The pupils form a homogeneous society. Solitary games, such as "making things," are carried on by many individuals at the same time; and while these still provide individual exercise, they acquire a new character as the children compare results and learn new ideas from one another. Social games now have their "parts" interchangeable; there is no *ex officio* leader among the players. Most important change of all, and most difficult to introduce without spoiling the character of the play, the games are no longer haphazard, but are regulated by the teacher. The work is still play—that is, exercise such as the child at his stage of development requires, and such as his instincts lead him to adopt as spontaneous and to enjoy, although the suggestion is not his own. But the teacher who understands his instincts, and has insight into their natural ends, is able to further the work of nature and to prevent a one-sided development by choosing now

this form of play, and now that, as she sees that the needs of the child require.

Educative Value of Play.

The programme is a wide one: exercise of the limbs and control of the muscles; exercise of the senses, and, through them, of the intellect; exercise of the memory and of the imagination; exercise of the feelings and of that sympathy which makes for social welfare; exercise of the will as the basis of character. The exercise and consequent development of the child as a complete personality, in short, is the aim which all the various games and occupations of the school must keep in view.

It is clear that so complex an end can be better attained in the social and regulated play of the school than in the arbitrary and unpremeditated succession of games in the nursery. The very complexity of the end may lead the unwary teacher astray. She may concentrate her efforts upon some one part which she thinks more important than the rest. She may, for example, devote her whole attention to the mental or the moral, and forget the needs of the physical. But the nature of the child is a unity. It must be developed as a whole, no part being neglected. Neglect of one side implies weakness in the rest. Intellect and character are both so linked with the physical that neither can be fully developed apart from it or from each other.

What we are apt to call, but wrongly so, the "educative" side of play must never be allowed to develop at the expense of the physical and active side. All real play should involve active thinking and doing, and anything which does this, and is accompanied by the normal and natural pleasure which attends such activity, is in the truest sense of the word education.

The Nature of the Infant School.

Such then, in brief, is the Infant School as we shall further consider it in these pages. It is a place where a number

of young children are provided with exercises appropriate to their undeveloped but rapidly developing powers of body, mind, and will. It is a sphere of natural activity for the pupils, and not for the teacher alone. It is a place for growth and culture, not for restraint and re-formation. It is a school where the pupil is an infant first and chiefly, and a scholar only in the sense and to the extent that he may become one without ceasing to be an infant.

What all this implies in the teacher, and what it requires in the school, in the curriculum, and in the methods of instruction, will form the subject of our discussions. The subject has been much neglected in educational writings, and a good deal of pioneer work needs to be undertaken. From this fact, as well as from the nature of the subject, there may be room for difference of opinion regarding many of the conclusions enunciated; but there should be no difference as regards the principles on which we attempt to found all the details of the discussions. And if these principles are clearly perceived, and all rules of action are related to them, the teacher will not go far wrong in practice, whether the methods adopted by her are those here recommended or not.

CHAPTER II.

THE TEACHER.

The "Making" of the Teacher.

FOR the Infant School, as we have outlined it, what kind of teacher is required? It is almost a truism to say that the teacher makes the school, and in no class of school is the truth of the saying more absolute or more evident than in the Infant School. What, then, are the qualities which are necessary in the teacher of infants?

From the side of the teacher the same question may be put in a more practical form: What are the qualities which it is essential for her to cultivate and develop in herself? The "born teacher" we have all at least heard of; but even in the case of the born teacher it may be safely affirmed that her success is due not to innate qualities, but to superior insight into the nature of her work and its requirements, and to her consequent efforts to develop in herself those qualities which the work demands. Even the born teacher requires to be "made," and the making must be largely her own work. In some cases this making may be more speedily or more perfectly accomplished than in others, and this owing to a better and clearer perception of what is required in the process, no less than to the natural disposition being richer in the elements which lead to success. In any case, the making of the infant teacher is not an event but a process.

For the successful carrying out of this process the first requisite is that the teacher should perceive what are the qualities that will tell in her work, and the next is that she should strive to develop those qualities. They are qualities which are possessed in greater or in less degree by every woman, and the practical problem is their cultivation and development. For this, as for all self-development, both study and action are necessary.

The Essential Qualification.

Since the essential feature of the Infant School is that it be a kind of nursery, it follows that the first qualification of the infant teacher is that she be in some sense a nurse or a mother to her pupils. This implies in the first place a feeling of sympathy with and love for young children. This capacity, or faculty, or instinct we might sum up less formally in the term "motherliness;" or, if the word seems to imply too advanced an age, we might call it, for the sake of younger teachers, by the coined name of "elder-sisterliness."

Motherliness is not the gift of a few. Its absence is really the exception, though it is only in close relations with children that it can reach a strong development. It is not confined to the adult. The instinct shows itself in very early life in the love for dolls, although the popularity of the doll is not due to this instinct alone. Nor is it an instinct confined to girls, though it usually reaches its greatest strength in them. Boys as well as girls often find a charm in the doll—the true baby-doll, that is, and not merely the toy soldier or sailor, which appeals to a quite different set of instincts in the boy. Boys often make admirable nurses for baby brothers or sisters, and in this capacity they show as much motherliness as girls do. As regards patience with a troublesome charge, a boy is often superior to a girl nurse, and manifests in this connection the budding qualities of magnanimity towards the weak and of ingenuity in amusing the peevish which we do not always find added to

the motherly instinct of the girl. There are even boys who esteem highly the privilege of being allowed to "kiss baby" when the audience is select rather than numerous; but this trait usually disappears as other interests and instincts develop in the growing boy.

Among mature men, too, there are many whose sympathy with and tenderness to children are hardly surpassed by any women; and happy indeed in any school is the pupil whose teacher is a man of this type. To some extent such a characteristic is really necessary for every teacher, man or woman, except perhaps in the most advanced stages of school life; and even there one would not care to say that it is not at least an advantage.

Woman the Natural Teacher.

It is in women and girls, however, that this quality of motherliness is normally present in the highest degree, and on this is based the fact that women are the natural and proper teachers of infants.

At what age the pupil may with advantage pass from the care of women to that of men is a question which would be very variously answered in different countries, and even among the people of our own country there might be differences of opinion. The practical answer depends on such conditions as national custom, supply of teachers, and other external circumstances, rather than on any educational principle. In England there is, or recently was, one Infant School in charge of a master. In Holland this is the rule rather than the exception. In America such an arrangement would be regarded as absurd, if it were not impossible. In this country the present tendency is towards extending the domain of woman in our common schools. In America woman already has almost a monopoly there. There is probably a limit, varying with national characteristics and sentiments, beyond which the disadvantages of employing women as teachers seem to outweigh the advantages; but this limit does not concern the Infant School. The

absolute necessity for the teacher of young children possessing the quality of motherliness demands that infants should be under the management of women teachers.

Hence throughout this book the word "teacher" is regarded as being of the feminine gender. One can only regret that our language does not allow of this fact being expressed by the form of the word. A result of this peculiarity of the English tongue is that even official documents are often marred by such clumsy circumlocutions as "male teacher," "female pupil-teacher," "female assistant," and the like, barbarisms which we shall try to avoid. It may also be explained at this point that in order to prevent ambiguity in the use of pronouns the word "pupil" is treated throughout as of the masculine gender, unless the context indicates otherwise. There is little danger of harm resulting to any of our arguments from this cause, however, as we are dealing with children at an age when the treatment appropriate to boys and to girls is practically identical.

Why Motherliness is essential.

We have placed motherliness first among the qualifications of the infant teacher. It may be more definitely expressed, perhaps, by saying that her first qualification is that she should like children. It is not by any means for sentimental reasons that we put this qualification first. Our reasons are solid, utilitarian ones which, if they do not directly affect the teacher's bread and butter, at least have much to do with its being palatable.

The most obvious reason, perhaps, is that, unless the teacher has at least some degree of liking for children, her work is sure to be almost intolerably irksome. In the more advanced stages of school work there are compensations in the nature of the subjects taught which may make up for a want of interest in the pupils. The infant teacher has no "subjects" to teach, but only children to superintend. Nothing exists in her sphere of work but the child and his

playthings, under which term we include all the apparatus of Infant School instruction. Unless she really likes children and is interested in them, she would be much happier almost anywhere else; and it may be added, as a matter of justice and fair play to the children, that she ought to be somewhere else

A Condition of understanding Children.

Again, the teacher who does not like children will never attain more than moderate success in an Infant School. In the upper school, perfect knowledge of the subject taught may compensate for imperfect knowledge of the pupil. Children are apt to become more commonplace and conventional as they grow older, and the teacher who can adapt her teaching to an imaginary "average" pupil will usually meet with a very considerable degree of success in her work. In dealing with very young children, on the other hand, the ideal "average" pupil is of little use to the teacher. What she needs to know is the individual pupil in all his primitive unconventionality.

This may at first sight seem to have little to do with a *liking* for children; all that it seems to require is a *knowledge* of them. This view is somewhat superficial, however. It omits to take into account two great principles of child management. The first is that a child will not show himself as he really is unless he feels himself in the presence of sympathetic interest. The second is that without this sympathy and interest the teacher cannot understand the significance of such marks of disposition and character as the child does show.

To put it briefly, knowledge of the individual pupil is essential to the good Infant School teacher; but unless she has a liking for and a sympathetic interest in children, she will neither see what she ought to see of her pupils, nor understand what she does see.

CHAPTER III.

CHILD STUDY.

TO understand children as the infant teacher should understand them, liking and sympathy are not all that are needed. Systematic study of the child must be added. To teach any subject to a child, it is, of course, necessary to know the subject; but it is also necessary to know the child—that is, to know his powers of understanding the subject, and the way in which we can best make it intelligible and therefore interesting to him. In dealing with matters of conduct, we must know what are his tendencies and natural motives to action; what are his dangers, and how we can best appeal to him in trying to put him in the right way to avoid these; and many other points important for moral training. We have also to know the child on the physical side, for his growth and health must not be endangered by anything in our school treatment of him; and we should be able to recognize the signs of normal and of abnormal growth, so as to aid by any means in our power that physical growth which is the most important function of childhood.

When these propositions are stated, they seem so self-evident that one cannot but wonder they have been so long ignored. The reason, probably, is that every teacher thinks she knows enough about children without any formal study of them. As a matter of fact no one yet knows enough about children.

The Problems of Child Study.

Let us glance for a moment at some of the problems of childhood which the Infant School teacher must solve, in order that her work may be founded upon a knowledge of the children whose physical, mental, and moral growth she undertakes to guide. First in point of time as well as of importance comes the physical. The early life of the child is almost entirely physical. Nutrition and growth sum up the whole duty of the baby. By the time he reaches school something is added to this summary. But nutrition and growth have lost none of their importance and their significance for him. If nutrition is being neglected, the child is not being educated, in the proper sense of the word. If our treatment of him leads to any defect in his natural growth, we are not aiding but hindering his education. Bodily development cannot be put off to a later date for our convenience. If it is missed at the proper time, it is missed altogether, and the result is a stunted specimen, unfitted for his place in the world, however "clever" or "good" he may be. Besides this, physical development includes brain development, and the narrowest of us must recognize that the brain at least has some importance from the teacher's point of view. And only a little thought is needed to remind us that bodily health and development are closely related to the making or the marring of character. It appears, then, that even if we do not think the physical care of the child to be a matter which properly concerns the teacher, yet this is so closely bound up with the mental and the moral that we cannot afford to neglect it, lest the defects in the physical should render fruitless all that we have tried to do in the other spheres.

The child does not grow up in three compartments, physical, mental, and moral, which we can treat separately. He grows up as a whole, as a complete individual; and if he is neglected in any aspect, the result is a person who misses the perfect development of his nature. It is not an

intellect but a child that we have undertaken to educate or to guide in his growing or developing.

Physical Growth.

The teacher, then, must at least know what normal growth is, and should be able to find out by actual measurements whether each of her pupils is advancing in this particular as he should. If defect is evident in any individual, she may or may not be able to aid in its removal, but she should at least know the fact. This is necessary in order to avoid cruelty to the pupil as well as disappointment to herself; for it is cruel to demand full mental work from an imperfectly nourished child, and unwise to expect normal intellectual development from one whose vital power is insufficient for normal physical growth. If physical exercises are given, as they ought to be, it is of importance to know whether each child is able without injury to take his full share of these. In some cases it may be found that rest is a better prescription than exercise.

Again, the teacher has to study the characteristics of normal growth as these affect the pupil's ability to do school work at each age, in order so to arrange the school work that it shall be exactly suited to each stage of growth.

Growth is not a uniform process. At one time it takes one direction, and at another time it follows a different direction. Rates of advance in size and in strength also vary. For example, there is known to be a time, at the age of seven or near it, when the energies of the body are subject to the strain of the second dentition, and the child is not so strong physically or fitted for so much activity as he was a year before. Pressure at this time has distinct dangers, mainly to the nervous system as regards school work, but also to the heart as regards physical exercise. Teachers will remember that not so long ago children at this critical age were specially pressed in order to be passed on to "Standard I." A slight relaxation of study is really more in accord with the requirements of the child at that age.

After the natural crisis is passed, there is considerably less risk in a fair amount of fatigue.

The subject of natural stages in growth is of the utmost importance to the teacher, not merely as an interesting fact about all children, but in order to the practical application of the knowledge—in order that she may recognize those stages as they are reached by her individual pupils, and that she may suit her treatment of them to their physical condition.

Brain and Nerve.

Another department of the physical study of children which is of importance for school work is the normal development of the brain and the nerves—both the nerves which control motion and the nerves which receive the impressions of sense. The latter are the instruments by which the child learns all that we can ever put him in the way of learning—his means of knowing the world of men and of things; while the former are his instruments for doing all that we can ever teach him to do—his means of expressing all that is in his mind and heart.

Much of our school work is designed to train this wonderful nerve system to receive and to express, and it hardly needs to be pointed out that this lays on the teacher the plain duty of learning all that she can about it. The study of the physiology of the adult is of little use here; it is not a fully developed nervous system that we have to deal with, but a *growing* nervous system, which will develop in a better or a worse way according to the treatment which we mete out to it now. We need to know by what stages it grows and develops, in order that our programme of work may be arranged so as to afford just the right kind of exercise at the right time.

The Organs of Sense.

The “development of the senses” has long been part of every teacher’s aim, but behind this lies the problem of the development of the *organs of sense*. That has received

little attention as yet from teachers. Of the special sense organs, the eye is that which has perhaps the most prominent place in school work. Not only is it the one which is most active, but it is also the one which is most easily injured. Every teacher knows something of the eye and its functions, of the necessity for good light, and of the dangers of too close application. These things we can learn in part from our own eyes, if only by our experience of over-study. Our books of physiology and hygiene tell us all of the remainder that we need to know. But there is one thing still left to consider, which is really the most important thing of all, and that is the facts regarding the *growth* of the eye. Sense training in the Infant School should be based on a knowledge of the *organs* of sense as they are when the child comes to school, and of the laws according to which they develop and reach their mature perfection.

The organ of hearing is chiefly passive in its function, and there does not seem to be much need for the study of it in childhood as distinct from adult life, so far as the physical side is concerned. But the hand, which is to all intents and purposes the organ of touch, is a problem which will give much room for study to the teacher.

Why should a young child's fingers be "all thumbs"? The cause of this phenomenon seems to be twofold. In the first place, most of the faculties which will be developed in the hand by-and-by are of a secondary-automatic nature. They are movements learned at first by carefully-directed efforts, and then practised until they can be performed without conscious direction of the will. In the meantime the child has not yet learned these movements. In the second place, the child does not come into possession of all his body at once. He gains control of the larger muscles and groups of muscles before the smaller are under the control of his will or of his brain. This is a very important fact in school work, as we shall see later, and it is mentioned now only for the purpose of illustrating the need for the study of children.

Natural Instincts.

One important aspect of children which requires study by the teacher is their instincts. We may regard all forms of action which are *spontaneous* in the child as instinctive. And now the importance of our understanding these instincts will become clear, for what our education has to do is just to lay hold of those spontaneous activities and modify them as we see best. Hence we should know what instincts nature has implanted in the child, and what nature is aiming at in each instinct, and we should see that they find room for their due exercise. This assumes all the greater importance when we consider that instincts are not, as a rule, permanent, but appear at a certain season, flourish, and, having done the work for which they existed, pass away and make room for others. From this point of view instincts are nature's curriculum for the child, and our education should consist in noting the birth of each instinct and affording due scope for its gratification. The result would be the natural development of all the inherited natural powers and functions of the child at the time when they are most susceptible of culture.

But in a highly artificial civilization like our own there is need for the development of many powers and faculties which are not hereditary in the race; and therefore, however important the exercise of natural instincts may be, we must also keep in mind the functions which, though more artificial, are hardly less important in the development of a useful member of society. We must see, however, that in the furthering of these artificial accomplishments of life we do not forget the natural and primary accomplishments which the instincts are designed to develop. In fact, we shall find that the best means for the acquisition of the artificial and secondary is the proper use of the natural and primary. Our school work is most educative when it makes full use of the most active instincts of the child.

Examples of Instincts.

We cannot, in the meantime, pause to discuss, or even to enumerate fully, the natural instincts which are of importance in the education of the child. Some of these—most of them, probably—are already familiar to teachers, although they may not have thought of them under this particular form. *Curiosity*, for instance, is a feature of early childhood which is not unfamiliar, but it is only when we consider it as an inherited instinct that we see its real importance. It is nature's "paidagogos," or pedagogue (not teacher), leading the little child to school—the big school of the world—in order that he may learn all that his forefathers have learned, and, like them, be fitted to make his living through the knowledge he acquires. We should see to it that this natural curiosity is not starved by our putting aside the child's "absurd" questions, or stifled by too much teaching, as it often is. If we make use of the omnivorous curiosity of the child, his eternal "why?" will by-and-by develop into the "how?" of the scientific thinker, and into the deeper "why?" of the philosopher.

Imitation, again, is an example of an instinct which is at its strongest in early youth, and often wanes rapidly as the years pass. The function of imitation is abundantly clear in the lower animals, and even among men of a simple type of civilization or of no civilization. Through it the old become the teachers of the young, and the experience of the race is handed on without the cost of each generation making its own experiments and discoveries. Without the instinct of imitation in youth, the individual child or animal would have small chance to reach an age at which he could make any discoveries of his own to guide his actions. In the education of the civilized child, too, imitation has a unique value. Through it he can be led to do many things for which precept would be a very indifferent guide, and things which could not be explained at the time when they should be learned. For moral education, whether in

the "minor morals" of everyday life, or in the larger aspects of conduct which make for character, we look to example rather than to precept for our motive power, and it is largely the imitative instinct which gives its proverbial force to example.

There are other instincts, such as the *Constructive instinct* and the *Collecting instinct*, that are of great value in the training of the hand and the intelligence of the child, and these should be reckoned with in our curriculum. But these do not reach their flourishing period during the Infant School stage of the child, and belong rather to the periods of the Primary and the Secondary Schools. The same is true of the *Club or Gang instinct*, which may take very abnormal and even criminal forms when legitimate exercise is denied, but which, when used in a healthy form, as in many of our best schools, is clearly seen to be nature's way of leading the boy from the narrower sphere of the family to the larger life of the state and its civic duties.

Importance of Instincts.

One strong reason for studying the instincts of the child is the fact that they may become perverted through the absence of natural exercise. Hence we run the risk not only of losing their aid in attaining the complete development of the pupil, but of turning them into forces hostile to that development. Perhaps the strongest possible example of this is that of the Club instinct just referred to. When boys have not the outlet for this instinct which should be afforded by team games and other social efforts, they are naturally driven to the formation of gangs or bands of the "hooligan" type. This is a deplorable enough result; but of all the causes which have been assigned for it, and the cures which have been suggested, none have sufficiently recognized how much of the evil is due to natural instinct breaking out into an anti-social form through the want of room to assume its legitimate form, in which may be found the natural beginnings of all social life

and service. Not repression but use must be the treatment of every instinct if we are to have men and women developed for all the duties of life.

It will be useful also to study the child's instincts with relation to the exercise they afford to the growing powers of his body and mind. The instinct for constructing or making things, for instance, does not appear in full strength until the nervous system has so far developed as to give the boy control over the muscles of his hands and fingers; and the opportunity for making things should then be given, in order that this control should be made perfect. It is useless to attempt to train the hands and fingers until these smaller muscles come under control, though we often try to do so with writing and drawing exercises; and when they do reach this stage, the best training for them is just the construction exercises which the boy's instinct leads him to choose as his form of work or play.

Natural Interests.

Another feature of children which should be studied, and one closely allied to instinct, is their interests. Interest is, of course, recognized to be the teacher's best ally in leading to knowledge; but the question of *what* is really interesting to children is one not easily answered except by actual experiment, and not always then. The teacher must have some knowledge to guide her, and not be at the necessity of constant experiment, or else her programme of work will be painfully haphazard and unconnected. To a certain extent interest will depend upon the circumstances of the children, and the kind of experience which they have. Town children and country children, for example, will vary in their interests. But there will be found to be a natural and normal *scale of interests* developing with age in all children who are not in some way abnormal, and this scale should be the ground-plan on which the teacher's lessons are laid out. Not only the actual subjects treated, but the method of their treatment, will be broadly pre-

scribed for the teacher at each stage by this varying range of natural interests. In the treatment of stories, for instance, a knowledge of the natural interests of childhood will prevent her from enlarging on a feature which her class will, at their age, find uninteresting because beyond them, or, on the other hand, because they have outgrown that stage, and find it "babyish." Interest changes no less in regard to nature lessons or object lessons, and only a good knowledge of how interest naturally develops in the child will enable us to make the most of our lessons in this sphere.

Activity.

The activity of young children is a prominent feature of their character. This also requires study if we are to make the best use of it, and not simply to repress it when it takes a form of which we do not approve. Health and growth require activity, but not always the same form of activity; and the school should make the most educative use of this as well as of every other tendency of childhood. X In their play our pupils will generally give us a hint as to the form of action which is "in season" for them. But to make school what it should be for the child, we must not leave all the best things to the playground.

Play itself is one of the subjects of study which will amply repay the teacher. It is more than an instinct; it embodies all the instincts of any period, and at the same time reveals the interests of that period. In imitative play, for example, the selection of what is to be imitated is an infallible test of the child's interests. At the same time, from its absolute spontaneity, play reveals the motives to action which influence the moral life of the child. It is a practical examination test by which we may see how far our influence has been operative for good—being on a small scale the same kind of test of the whole results of our school training as the pupil's actual life in the world will be after he leaves school.

Moral and Religious Development.

In addition to these features of the bodily and mental growth of our pupils we need to study their moral growth. It is too often assumed that our moral judgments as applied to the conduct of grown-up persons are applicable to children also, making allowance, of course, for the limited knowledge and foresight of the latter. But before we pass any judgment on conduct we should know the motives which prompt to action. It is a grave mistake to assume that the motives which appeal to us will also appeal to our children. Their motives are not to be classed as merely higher or lower than ours, but must be recognized as different in kind. The important thing for us is to *understand* the motives from which our pupils act. Without this knowledge we may indeed praise or blame, but we can do little to strengthen a desirable motive or to weaken an undesirable one.

We shall find, when we look into the matter, that the young child has no moral character at all to begin with. He acts upon the impulse of the moment. There is no reflection, and there is no conscious choice of ends. He has no conscience, and no conception of what we mean by Duty. This is not because these things have not yet been explained to him, but because he has not reached the stage at which such ideas can have any meaning. Explanation will do no good, and may do harm, by leading him and us to suppose that he has grasped the real meaning of a term, when in fact he has only acquired the power of putting one word in the place of another, both of which are in their essential meaning yet beyond him.

The teacher must try to know the stages by which the child reaches the first step on the way to possible morality—the awakening of the fundamental emotion of *Sympathy*. This will form the only lever at first for raising the child into the sphere of moral ideas. From this the further conceptions of *Fairplay* and *Justice* may be developed. From

the practice of such elementary duties the child will be led gradually to the conception of *Duty* in the abstract, and to feel the force of a *moral law* and the influence of a *moral ideal*; but most of this will fall beyond the stage of the Infant School.

The religious element must not be neglected in our study of the child. Before we proceed to give any instruction in this direction, it is of the highest importance to discover the child's power of entertaining the ideas we wish to give him. There is perhaps no subject so apt as this to lead to talk which is merely "in the air," and the more importance the teacher attaches to the religious lesson the more careful will she be to find out the limitations of her pupils, and their point of view, in order that her teaching may be as effective as possible.

Knowledge of the Individual.

Such are some of the chief problems which are to be studied in order that the teacher may know her children in the mass. It is not in the mass, however, but as individuals that the children will be educated; for it is as individuals that they learn, and the extent of their learning is the absolute measure of her teaching. So to all this study of children in general must be added the careful study of each individual child. The general study, as we may call it, will, however, make this individual study easy for her, or at least easier than if she had no general principles to guide her. She will at least know what to look for, although she may find it in very varying degree, and in diverse combinations, in the different individuals of her class.

Methods of Child Study.

It may be desirable to say a few words here as to the methods by which this systematic study of children, so important in all the aspects of their growth, is to be carried on. This may be necessary in view of the fact that the study of children has not yet been included in our usual

course of training for teachers, though there is no doubt that it will by-and-by find a place at least as important as the Methods of Teaching the various subjects of the school course. At the time of writing this, there are Training Colleges in the United States—and there may be others elsewhere—where the study of the known laws of development in children is really the backbone of the student's course. Until the same can be said about our Colleges our teachers themselves will have to see to their own equipment for gaining the most valuable knowledge which they can possess.

Reminiscence.

One method of study which is open to every one is simple Reminiscence of her own childhood. Memory of one's own childhood is apt to be somewhat unreliable, and the events of that period are often seen through a golden mist which does not aid clear vision. Yet when a steady gaze is bent upon an object partly obscured by mist, and even at first glance wholly veiled by it, the outlines of that object gradually gain distinctness, especially if the object is one with which the observer is, or was, somewhat familiar. By persistent effort we can remember much that at first sight seemed forgotten for ever. We may at least recall such an outstanding fact in our early life as our first day at school. As we live it over again, our own childish ideas, or some of them at least, come back to us. They look grotesque enough now in the light of our more mature experience. If so, all the better; it is just their grotesqueness and absurdity which will be of most value to us as teachers. We look back into our past not for the purpose of finding out what our school really was, but for the purpose of seeing what we *thought* about it then. It is the errors which we recall that are really the most helpful thing. Our own pupils are making errors about us and our teaching, if not the same that we made when we were children, at least very much of the same kind. The things which we remember wishing our teacher to do for us will give us

some guidance as to what we can do for our pupils now to make them feel at home in their school.

Every teacher will find, when once she earnestly looks for it, a large store of recollections which will be of value in helping her to understand her young pupils. And when she forms the habit of thinking about such matters she will see many things in her pupils which remind her of similar things in her own childhood, almost but not entirely forgotten. At the same time, the new habit of mind will help her to understand better, and to sympathize more fully with, the difficulties of the little ones under her charge.

Observation.

Another method of studying children is the simple one of systematically observing some one child where there are facilities for doing so—some young relative or neighbour. The temptation in this case, to which parents are perhaps specially prone to succumb, is to note only the unusual or clever things which the child does or says. These “smart” things are of little use to us. What we need most to know is the usual or normal processes which go on in the child’s mind, and the common phenomena of his inner life.

For this kind of study some preparation is desirable. We must make up our mind as to what we are to look for, otherwise our observation is apt to be unconnected and haphazard. We should, in fact, make out for ourselves a kind of syllabus or scheme of the facts which we mean to observe—as, for example, some of the instincts of early childhood which we have already mentioned. The various forms of imitation in play would give us observation exercises of a useful kind for some time.

It should be noted that observation is our programme, not experimenting with the child. We can usually discover more about a child by simply watching him in an unobtrusive way than by asking him questions. At the same time, our observation need not be a silent pro-

cess. If our "specimen" is one of our intimate friends, there is no reason why our observation should not extend to the words and ideas used in friendly conversation with us as well as to the other features of his actions. Perhaps the caution most needed here is this, that what appears to be the most direct way to find out anything is rarely the most reliable. If we ask a boy what he likes best, or what interests him most, his answer may be coloured by many unconscious influences, possibly to such an extent as to make it really misleading. We shall find the true answer much better by simply observing the indications of his interest as revealed in his words and his actions, apart altogether from any questioning.

The ordinary school work affords another field for the observation of children. An exercise in free or spontaneous drawing, for example, will tell us something about the way in which an object strikes a child, for he will spend most trouble in representing what he is most interested in. What might be called a very poor result, considered merely as a drawing, may be most instructive when considered as a means of revealing an interest, and this will be some compensation as we deplore the scrawls presented to us. The same remark may be made regarding the ordinary composition exercise of the higher classes. This test will not only show the pupils' command of the written language, but will also tell us many things about their way of looking at the subject of discussion. We can, in fact, get much more reliable evidence in this way as to the opinions and ideas of our class than by putting direct questions designed to discover these opinions, which often lead to "posing."

Collective Study of Children.

Some discredit and even ridicule have been cast upon systematic efforts at Child Study by the over-use of the method of asking direct questions. The usual plan in this method is to set a number of questions to be answered in writing by as large a number as possible of children at

once, not only in one school, but in a considerable number of different schools. In some cases a short story is told, and the children are invited to say what they think of the incident related. In other cases the children are asked what they would do in a supposed set of circumstances, such as finding a sum of money.

The objection most commonly made to this method is that the children do not say what they really think, but what they suppose will be pleasing to their teacher. There is some force in the objection, but probably less than is usually supposed. What the child himself thinks at any period of his school life will very naturally be coloured by what he has heard from his teacher, and to suppose that his real opinion is not given when he says something that he has been taught, is to assume that our teaching can have no practical results. It is also objected that in the real circumstances the children would act in a very different way from what they describe in their answers, and that these answers are therefore of no value as revealing the mind of the pupils. There is still less force in this objection than in the former. We have only to put ourselves in the pupil's place to see this. We may quite honestly form an opinion as to how we should act in a hypothetical case, and yet, when we find ourselves in such conditions, we may act in a way very different from our ideal. If one's conduct always came up to his best ideals, or, on the other hand, if one's ideals never rose above his accomplishment, the world would be either a much better or a much worse place than it actually is. In any case, there may quite well be discrepancy without conscious dishonesty or "posing."

The chief value of this collective method of Child Study seems to lie in the opportunity it gives for comparative study. One can trace how the opinions and views of children vary with their different positions as to age, social condition, and other factors; and this is a phase of child nature which is well worth study. Hence we must say that the absolute condemnation of the "questionnaire"

method is based upon an imperfect understanding of the problems to be solved, or upon a hasty generalization from the manner in which these exercises may be conducted. Mistakes have, no doubt, been made, but this is no reason for discarding the method; it is a reason for considering the best way of employing it.

Child Study in the Teacher's Training.

The methods of Child Study which we have mentioned are such as a teacher may use by herself, or in combination with other teachers like-minded. There is need, however, for something more scientific and more systematic than this. We ought to have all teachers exercised in the methods of studying their pupils as a part of their regular professional training, and at the same time all the knowledge regarding children which has been already amassed by such means should be put into their possession.

We recognize the need for this to some extent in the study of physiology and hygiene, psychology, logic, and ethics, in our Training Colleges. We do not quite realize yet, however, that it is not these sciences of adult life, but their application to children, that is the important thing for teachers. The physiology of *growth* is what we need to know in school, and the application of the laws of health to *children* of various ages, taking full account of the ways in which age varies the problems. Psychology should be largely experimental, and the physiology of the special senses should be combined with it. At the same time, *genetic* psychology, or the laws of mind growth, must be added. The Logic of the text-books is of little value in school, where thinking and reasoning do not follow the ordinary laws of adult logical procedure. In Ethics, too, a very special study should be made of the development of the moral nature. It is not the virtues and vices of adult life, but the *evolution* of morality out of the impulsive life of the child which affords the teacher her problems. For all these questions a very thorough course of scientific

study is required, such as can only be given in a college properly equipped for it; and it is a course for which, in the meantime, it would be very difficult to find text-books, not to say competent teachers. Many of the essential problems have not yet been studied, to say nothing of their solution. The work must be largely research work.

In the meantime the need for such study is hardly realized. It is accordingly left to the teacher who feels the want of it to fill up as best she may what are real blanks in her professional training.

Its Scope and Importance.

Child Study is a comparatively new term in the educational world, though the thing signified must be nearly as old as the race. Its educational value is only coming to be realized, and many of its methods, as we have indicated, are only in the experimental stage. Yet in spite of occasional cheap sneers from those who think superficially or not at all on the problems of the growing child, it is gradually being recognized as a valuable preparation for school work. Whoever may feel superior to the need for studying the child, certainly the Infant School teacher cannot afford to do so. No other kind of knowledge is at all comparable in practical value to knowledge of the child. And this knowledge she cannot glean from books. More of it will be available in literary form some day, but in the meantime the amount is somewhat limited.

The best knowledge, however, comes only from the study of this child and that child; from watching them at play, alone, or in company; from hearing them talk to their companions; from talking with them and listening as they talk freely and without reserve; from noticing their questions; from observing their likes and dislikes, their pleasures and their fears; from a study of their physical characteristics, measurements, attitudes, and habits; from observing what they can do—that is, do in such a way as to satisfy their own ideals; from a knowledge of their power

to grasp what they see and hear; from noticing what things they know, and what they know about them; from acquaintance with their home life and surroundings;—from a careful study, in short, of the child as he is in every aspect, physical, intellectual, and moral, and of the influences which have made him what he is.

Now this seems a fairly wide field of study for the teacher. It is, indeed, so wide that probably no individual has ever consciously traversed it all. Yet as an ideal to be aimed at, the knowledge we have outlined is no whit too comprehensive or too complete. If the young teacher will take the trouble to question her more experienced sister, or if the really successful teacher will analyze her own working principles, it will be found that something like this all-embracing knowledge of the child lies at the root of all real success in the Infant School, though perhaps almost unconscious or unformulated. And this practical knowledge of the child in general, and of individual children in particular, we again repeat, will be for ever impossible to one who has not a real love for and a real sympathy with children. Such insight into their nature as the teacher requires can spring only from that instinct of "motherliness" which nature has denied to few, if any, but which needs cultivation and exercise if it is to reach its full development.

The following books will be found useful for study or for reference:—*Studies of Childhood* (Sully); *The Child: a Study of Evolution in Man* (Chamberlain); *The Medical Inspection of School Children* (W. Leslie-Mackenzie); *Infant Schools: their History and Theory* (Salmon and Hindshaw), Part II.; *The Child: His Nature and Nurture* (Drummond); *The First Three Years of Childhood* (Perez); *The Mind of a Child* (Preyer); *The Infant Mind* (Preyer); *Mental Development in the Child and in the Race* (Baldwin); *The Intellectual and Moral Development of the Child* (Compayré); *The Psychology of Childhood* (Tracy); *The Children: How to Study Them* (Warner); *Studies in Education* (Barnes); *Articles in The American Journal of Psychology and The Pedagogical Seminary*, by Prof. Stanley Hall.

CHAPTER IV.

THE PROPHETS OF THE INFANT SCHOOL.

THE next requirement for the Infant School teacher, but as to importance coming a long way behind those already mentioned, is a competent book-knowledge of the theory and principles of her work as set forth by writers who may be called the Prophets of the Infant School. Prominent among these are Comenius, Rousseau, Pestalozzi, Froebel, and Herbart. There are others of scarcely less importance to teachers, though of less repute in the history of education; but those now named cannot be overlooked by the teacher who wishes to understand her work.

Comenius.

John Amos Comenius, the exiled Moravian bishop of the early seventeenth century, is in many respects the most impressive figure in the hierarchy of educational reformers. As philosopher, pastor, scientist, and schoolmaster, his outlook upon education was wide and comprehensive. He saw in the schools of the common people the only means of social regeneration, and in the thorough-going reform of the schools the only means of adapting them to this high end. While an exile from his native land on account of his religion, he was known throughout the civilized world of his day as an educationist. Few writers have enjoyed so wide a popularity in their own time, and few

pioneers have seen their principles so generally accepted. In his voluminous writings we may either find expressed or clearly implied all that we have adopted as canons of education, together with much that we have not yet been able to put into practice.

Home Education.

Comenius has a distinct message for the Infant School teacher, none the less valuable because he did not contemplate in his scheme any schools for infants. To Comenius the Infant School meant the home, and the only teacher of infancy was the mother. For the first six or seven years of childhood, home education was his ideal; but it was such a home education as would make Infant Schools superfluous even in our own day if it existed. Since it does *not* exist, however, and since our Infant Schools have been created to make good the deficiency, all that Comenius has to say regarding the mother's work in his "School of Infancy" becomes applicable to the teacher's work in our Infant Schools and Kindergartens, or, at least, so much of it as refers to the period when the mother transfers part of her duties to the teacher.

We do not refer at length to the more general educational principles enunciated by Comenius as applicable to all education—his insistence on the use of the senses, on concreteness in instruction, and on due graduation of work. These are now known to every teacher, and are common-places of our theory, if not of our practice. We confine our attention to his discussion of the education proper for children below the age of six or seven years.

This education embraces instruction " (1) in a knowledge of things; (2) in labours with activity; (3) in speech; (4) in morals and virtues; (5) in piety; (6) inasmuch as life and sound health constitute the basis of all things in relation to men, it will be shown how, by diligence and care of parents, children may be preserved sound and healthy."

With the correct instinct of the practical man, Comenius then proceeds to give the first place to a disquisition on the physical nurture of children, and discourses on nourishment, play, and other points bearing on the well-being of children—points which lose none of their importance when the school begins to share the work of the home.

Programme and Methods.

When we inquire what subjects of instruction Comenius considered suited for this mother-school, we may be startled at first to find that he enumerates geography, history, optics, astronomy, economics, and other formidable sciences and arts. This deserves some consideration by the infant teacher. Comenius does not, of course, intend that any formal instruction in such subjects should be attempted; yet there seems to be design in his describing by those names the knowledge which is picked up by the child at home. At any rate there is much suggestiveness in it. He contrives in this way to emphasize the *importance of beginnings*. Every scrap of knowledge acquired is a fact belonging to some science, and the deepest and widest sciences have their roots in the knowledge which is gathered in infancy.

The geography of the school of infancy, then, is simply the learning of *where* as applied to the children's surroundings—the rooms in their home, and the things about the house. It is experience, not teaching, which Comenius has in view. He exemplifies thus: "In the fourth year they may, by going abroad, learn the way through the street or market-place, by going to the suburbs, to their uncle, to their grandmother, their aunt, or their cousin. In the fifth and sixth years, they may fix all such things in the memory, and learn to understand what a city is, what a village, what a field, what a garden, what a forest, what a river, etc."

This is a sample of what instruction means for Comenius at this stage; it is *experience*. The child must be put in

the way of seeing and of doing, often with a conscious purpose in the mind of the parent ; and what is seen and done by a healthy child in a well-conducted and favourably situated home, will form the basis of all the arts and sciences of the future.

The whole of the little treatise mentioned, "The School of Infancy," will repay study. It is intensely modern in the way in which Comenius always tries to base his recommendations upon what he knows of children—a point of view generally forgotten by writers of a later time. It may be somewhat antiquated in the view taken of home possibilities ; most of what Comenius wishes to be done by the mother is now left to the Infant School teacher. For the latter, it will be of interest to know what, in his opinion, the mother *ought* to do, for it is just this that constitutes the chief part of the teacher's work at the present day.

Rousseau.

Rousseau has written much that is well worth study by the teacher of infants, and this in spite of the fact that he regarded the teaching of infants as a blunder, if not a crime. We have said *in spite* of the fact ; perhaps we should be more nearly right in saying *on account* of this fact. A great deal depends on what the word "teaching" is taken to mean. In Rousseau's time it meant the use of books. Early education aimed at introducing the child to language—the Latin language, of course—and through language to things or real knowledge, if time permitted. It was this verbal education in the place of real instruction which led Rousseau to condemn the education of the very young.

With the theory which lay at the root of his revolt—the theory of a "state of nature" which existed as a golden age previous to our modern civilization and all its miseries, and which may yet be brought back by man returning to a purely "natural state," whatever that may really mean—with that theory we need not concern ourselves. His practical conclusions are our main interest.

This is not an uncommon case with educational reformers. Their practice is usually more sound as well as more serviceable than their theories. It may remind us of the advice given to Sancho Panza when he set out for the government of his Island—never to give his reasons for a decision, for, while his decision would likely be right, his reasons were almost sure to be wrong.

His Paradoxes.

Rousseau's general advice to teachers may be summed up in the rule, "Observe what is being done in our schools and colleges, and then go and do the exact opposite."

Happily at the present day the young teacher may find examples to follow as well as errors to avoid in our schools; yet Rousseau's principle may be commended to every teacher of the young. We must, however, recast its form somewhat. We would put it in this form, "Observe what is being done in our schools, and if it is found not to be in accordance with the known laws of the development of the child, reject it." Even in this modified and diluted form the principle may prove sufficiently revolutionary as a rule of practice.

We should, of course, apply the same test to Rousseau's own teachings. No man is more open to criticism than the critic who at once explains the method of criticism and sets the example of applying it.

Rousseau on studying Children.

But though many of his injunctions are impracticable or impossible, we may still find in his wildest paradoxes a suggestion of illuminating truth. "The wisest among us fix upon what it concerns men to know without even considering what children are capable of learning"—"I wish some discreet person would give us a treatise on the art of observing children—an art which would be of immense value to us, but of which fathers and schoolmasters have not as yet learned the very first rudiments." Such expressions as

these amply justify the remark of Quick ("Educational Reformers"): "Rousseau was the first to base education entirely on a study of the child to be educated, and by doing this he became, as I believe, one of the greatest reformers." To this comment there falls only one sentence to be added, that this fundamental reform has not yet been made, except by a few scattered educational workers in this and in other countries, who are usually dubbed "faddists."

His General Principles.

To the infant teacher of the present day Rousseau's general positions are of the utmost importance:—Ideas before symbols; things before words; nature before books; practice before theory; doing the right before warnings against the wrong; what the child is, instead of what we wish him to be; what he thinks, instead of what we think; what he can learn, instead of what we believe he ought to learn; a reasoned plan, instead of traditional practice; the art of observing and knowing the child, instead of the art of explaining the subjects of instruction. In view of those sound but neglected principles there is much room and much need for a study of Rousseau. We are yet a long way from having made the best of his teachings and warnings. If we cannot accept him as a guide, we may find in his works many a useful beacon; for there are few things more tenacious of existence—we cannot call it life—than the traditions of the school.

Anticipations of Froebel.

In several points Rousseau has anticipated Froebel. He compares, for instance, the work of the teacher to the work of a gardener who watches and furthers the development of a plant. Again, he takes due account of the child's spontaneous activity, and insists on this activity being used by the teacher, and not merely being repressed. He sees its value in development, and protests against the "everlasting 'Don't.'"

And once more, as regards the

senses, Rousseau shows that they need cultivation with a view to making them more reliable instruments of the intellect, and that this cultivation must come earlier in life than the abstract and more purely intellectual instruction. This is both the natural order for the child and the logical order for education.

Rousseau quaintly but aptly compares the child to a cat introduced into a strange house—his nature leads him to explore his surroundings by his spontaneous activity and curiosity. Hand and eye and ear are his ready instruments for this work, which is really the acquisition of knowledge, the very object towards which the teacher desires to lead him. The natural counsel to the teacher, therefore, is to encourage this activity and curiosity, and not to repress them by shutting out the wide world of things, and opening only the narrow world of books and words.

It is very interesting to note the stress which Rousseau lays upon the value of music and drawing. But Rousseau's drawing, it is to be observed, is the drawing of real things. It is copying from nature, not copying from copies.

It is very modern, all this. Indeed, all reformers who really get to the root of the matter are apt to be in advance not only of their own times, but of future times as well.

The influence of Rousseau no doubt suffered much on account of the extravagance of many of his theories other than educational. It suffered likewise from his educational reforms being presented merely in theory, and not in living practice. To these causes, especially the latter, as we think, it is largely due that his influence on education has been less than that of practical educators who have shown no more insight into the problems of education, but who had the talent and the perseverance necessary for working out the schemes of reform which they advocated.

Pestalozzi.

It would be hard to imagine a master and a disciple more unlike each other than Rousseau and Pestalozzi. But

in their attitude towards the bookish education of their times they are entirely at one. Alongside of Rousseau's advice to reverse all the current maxims of the schools, we may set Pestalozzi's remark that the school coach is not so much in need of being better horsed as it is of being turned right round and started on a new track. Both are agreed on the necessity for revolution rather than reform.

But while the master preached revolution, the disciple headed the revolt. Pestalozzi was too human to be content with an attitude of criticism and negation. The enthusiasm for humanity was the motive power of his whole life. That life should be familiar to every teacher. At Neuhof, at Stanz, at Burgdorf, and at Yverdun was seen in active operation that spirit which inspires every true teacher of the young—combating difficulties which, happily, few teachers have to face, but producing results which still fewer teachers will ever produce. The man is greater than his books, as every great man must be; yet these have a high place in the literature of the Infant School, and expound the writer's aims in some respects more clearly than he was ever able to realize them in practice.

The Aim of Education.

Pestalozzi held clearly before himself the truth that the end of education is not knowledge but conduct—an aim which would, if we realized it, materially affect our estimate of many things in our own school practice. His knowledge of children taught him that real education must begin at a much earlier age than the theories of Rousseau required. It taught him, by much bitter experience, that education of some kind *does* begin long before school life can begin, and this led him to realize what Froebel so much insisted upon—the necessity for the mother having a clear conception of her share in the education of the infant. “Maternal love is the first agent in education.” The child must be helped to climb the ladder which the patriarch saw in vision, by love, but not by love alone. “Let him not

attempt it by the cold calculation of the head, or by the mere impulse of the heart; but let all these powers combine, and the noble enterprise will be crowned with success." It is *thinking love* that is required. Education must be "a continual benevolent superintendence, with the object of calling forth all the faculties which Providence has implanted." How continual and how benevolent such superintendence can be, let Pestalozzi's life-work show.

General Rules of Method.

We need not look to Pestalozzi for a complete scheme of Infant School management, or for methods of teaching the various "branches" or "subjects." But we will do well to have a firm grasp of his principles. Prominence is given here to what may be called the intellectual rather than the moral principles, in deference to our national practice; but the divorce of the moral from the intellectual should be regarded as the unpardonable sin in education. All instruction is profitable for the formation of character in the widest sense, and if it fails in attaining this result, it fails in being truly educative.

The first of Pestalozzi's principles which we mention is that early education must be carried on through perception. Not words and the meaning of words, but real things and the child's own observation of them must form the first step. Then the appropriate words can be used with a real meaning. The active exploration of the child's surroundings provide the beginnings of his store of real knowledge, and this exploration is to be carried on so that the knowledge gained is systematic and connected. Thus sense and intellect are developed together. They cannot be really developed apart.

The order and rate of advance are to be regulated by the capacity of the pupil, not by our notions of what he should know and of the progress which he should make. This, of course, throws the teacher back on knowledge of the child as the fundamental study in all education. Without a

knowledge of the exact progress which the child has made, and of the laws which regulate his further progress and development, the teacher remains in the dark as to how she may best aid that progress.

In all educative work the child must be the active partner. It is what he does and perceives that educates, not what the teacher tells and explains. And the activity of the child must take the form of real exertion. Pestalozzi was no believer in mere play-work. He did not attempt to educate the child by mere sugar-coated methods. There must be real work; but that work must be such as is suited to the child's interests and his powers of body and mind. Within these limits work need not be unpleasant, and, indeed, will be more pleasant than mere passive receptivity, for it provides an outlet for the natural and spontaneous activity of the young. Even manual labour of a suitable kind Pestalozzi found to be an educative agency of much value.

As we should expect from these principles, Pestalozzi believed in the thoroughness of the initiatory stages of education, and therefore in slow progress. We still need to learn this lesson. New patent methods, by means of which all difficulties vanish and the pupil makes phenomenally rapid progress in the various subjects, are always to be suspected and generally to be avoided. The only real progress is not the progress made in this or that "branch," but the progress in development and the gain in power made by the child; and this cannot be forced beyond nature's pace either in the physical or in the mental sphere without incurring the risk of nature's revenge, nor can it be stimulated by artificial methods with any security that the advance which we seem to make will prove in the long run to be true progress.

Froebel.

Froebel is not only a prophet of education in general, but he is the great apostle of the Infant School. No teacher is more quoted than he, and perhaps few are more misunderstood. He himself expresses the opinion that centuries

might elapse before his view of human nature and human education should be universally accepted. The experience of half a century certainly tends to confirm the probability of this statement. It is not by our age of hurrying mechanical industry, following as its guide in life the "gospel of getting on," and looking upon money as the end and the test of success, that Froebel's ideal will be readily accepted. We have already accepted some of his methods, especially such of them as can be made subservient to lower aims than his, but the best of his teaching has not yet found acceptance.

Froebel's View of Education.

"Education should lead and guide man to clearness concerning himself and in himself, to peace with nature and to unity with God; hence it should lift him to a knowledge of himself and of mankind, to a knowledge of God and of nature, and to the pure and holy life to which such knowledge leads." This is somewhat beyond our usual purpose in adopting the gifts and occupations which we are apt to regard as Froebel's legacy to education.

In order to appreciate Froebel's view of man and nature, and of their relation to God, it is necessary to have some familiarity with the transcendental philosophy of Germany before and during Froebel's time. This familiarity is perhaps too much to assume in all Infant School teachers, and we must confess it is a knowledge which would probably not give much aid in putting his teachings into actual practice in the classroom. Nor is even a competent knowledge of German philosophy always sufficient to make clear what Froebel has written. So the late Sir Joshua Fitch is constrained to write: "At times he goes entirely out of sight, and whether the words we hear are the expression of deep truth, or have absolutely no meaning at all, I, for my part, am at times totally unable to determine." These are comforting words to such as have felt precisely the same uncertainty, but have lacked the courage to confess it. But the next sentence, which, after all, touches the main

point of the matter, must evoke no less ready agreement :
 " But where I can understand him he seems to me singularly wise ; and working in the same lines as Pestalozzi, he in some respects advances far beyond his great predecessor."

Unity.

The fundamental fact or law for Froebel in education and in human society and in nature alike is that of *inner unity* or connection. Nature, man, and God form one great unity ; each is in itself likewise a unity. The mind of the child is a unity in its thinking and feeling and willing. Childhood is a unity, which develops into boyhood and manhood ; each period must develop into what its inner nature and law requires it to be. Thus the child is not merely an imperfect boy, or the boy an imperfect man ; each period has a perfection of its own and a value of its own, and so has a claim on us for the treatment which furthers its perfection. And there is no break between the periods ; each grows into the next, the individual being a unity throughout.

As the individual is a unity, so his education is to be a unity. Education by detached subjects is a fallacy. Only so far as each part is related to every other part is knowledge really effective in developing the individual as a whole. This principle as applied to knowledge is now obtaining more recognition than it formerly did, but not so much as its importance demands. We are still prone to treat our various " subjects " as so many separate things.

To maintain this unity of knowledge is perhaps more easy in the Infant School than elsewhere, as the circle of ideas is comparatively narrow at that stage ; but even in the Infant School there is a tendency to branch out into special lines of abstraction so far as to destroy the unity and connectedness of the instruction. There is a tendency also to treat the infant as an imperfect boy or girl, by making premature excursions into fields of knowledge which lie far beyond the natural range of infancy. To strive

for precocity is to ignore the unity of childhood. A perfect boyhood can only develop from a perfect infancy. Each stage has its own type of perfection. Precocious boyhood in the infant is no more to be admired than precocious manhood in the boy.

There are other aspects of unity insisted on by Froebel, sometimes in language none too easy to understand, but those already noted seem of the greatest importance at the Infant School stage. The principle, however, applies equally to education at all levels, and to life in all its aspects, and, in Froebel's view, to the universe as a whole.

Self-Activity.

From unity as the fundamental law or principle in education we pass on to consider Froebel's fundamental process, which is *Self-Activity*. As regards activity, we are all ready to admit its importance in school work. We know that it is not what the teacher does but what the child does that educates. Complete learning, we are aware, must include not merely reception by the child, but reflection, which is a form of activity; and we can never regard the process as complete without expression by the child in some form or other—expression in language, oral or written, expression in symbols, or expression in the form of drawing or other manual work. And it is this third stage, expression, which is at once the most active and the most educative. So far we find no difficulty in following Froebel.

But this is not all that Froebel means by self-activity. It includes the activity of the whole self, bodily and mental, but it also implies something much deeper, and that is activity *determined by the self*. It means activity which is spontaneous, not prescribed. It means the expression of the child's own thoughts, not of thoughts communicated by the teacher, however true or excellent. It is creative activity, not reproductive activity. It is invention, not practice.

Activity and Self-Activity.

Activity and self-activity are not only different: the former may be antagonistic to the latter. A child may be kept so constantly active that all spontaneous activity is crushed out. He may be so assiduously led that he can never do anything but follow. He may be made to answer so many questions that he will never think of asking questions of his own. He may have so many problems given him to solve that he will never discover a problem for himself—and the *discovering* of problems is a far higher and more educative exercise than the *solution* of problems presented. He may be required to copy so many drawings that he will give up trying to make any drawings of his own. His personality may be so much overshadowed by that of his teacher that it dwindles and disappears. In every department of school work there is this possibility—that mere activity may take the place of self-activity, and that the real child, for whom the school exists, is the only thing for which the school can find no place. The teacher is there, the subjects of instruction are there, and the class is there, but the independent individual child is nowhere to be found.

This danger is easier to see than to avoid. For, after all, the teacher has not one child to teach, but many. But so had Froebel. He was not a mere theorist, as so many educational reformers have been; he was a teacher, and that not by any accident of circumstances, but by deliberate choice. It was only when he found himself face to face with a class of boys that he recognized he had at last found his true vocation in life. No other occupation could charm him away from his chosen work. He was “as happy as a fish in the water,” as he quaintly expresses it. And at that time he had had no preparation for the work of teaching. He soon discovered, however, that such preparation was desirable, and took the best means of acquiring it by putting himself for a time under the

leadership of Pestalozzi, afterwards returning to the labour he had made his deliberate choice. Froebel, then, of all men, was least likely to make any demand impossible to comply with in actual school work, and it is with full knowledge of the problems of the school that he asserts self-activity on the part of the child to be the only educative form of exercise.

Education by Play.

Very important deductions follow from this principle. If it is by self-activity that the child develops, then educative results are not confined to the traditional exercises of the school. All self-activity has educational value, with the obvious exception, of course, of wrong or hurtful activities, such as would lead to positive harm or would further development in undesirable directions.

Now the most spontaneous of all activities in the child is what we call play, in all its varied forms. Hence the play of childhood is the most potent instrument of education. This does not mean that children imbibe knowledge of all the school subjects from the playing of their school games. But knowledge is not the whole or even the most important part of education, and we are apt to assign to it a place high beyond all reason. But if play cannot take the place of instruction, still less can instruction take the place of play in the education of the child.

Education, it has been well said, does not find its end in children knowing what they did not know before, but in their acting as they did not act before. The child's body, his feelings, his will, his character, will count for much more at every stage of his life than the amount of his knowledge. And it is towards the development of these that play is of the most efficiency.

We may observe a tendency in some schools to regard kindergarten play as educative only in proportion as it is instructive. Children are made to represent animals, or plants, or other objects, and to learn, through movements

and words dictated by the teacher, what properties belong to these animals or objects, and what actions are characteristic of them. This exercise may be useful, though probably less useful than is often believed, and it may be amusing, though the solemnity of the little actors sometimes leaves a different impression on the spectator; but it is not play. At the best it is a stage play—a “miracle play” or a “morality,” such as were used of old to teach religious truth to the unlettered. It is activity, but not spontaneous activity. To regard such forms of play as alone or even in an especial degree educative is to give up Froebel’s principles through a mistaken adherence to his practice.

The “Gifts” and Games.

In order to afford opportunity for the kind of play which he saw to be most educative, Froebel provided certain playthings for the children, beginning with the ball, and extending through the well-known series of “Gifts.” He wrote elaborate instructions as to the uses which should be made of each of these. It is perhaps natural, therefore, that many persons should assume the presence of those gifts and the practice of those prescribed games to be essential to the Froebelian Infant School. But this is an assumption which we ought to examine on Froebel’s own principles.

We must remember that the earliest gifts were designed for children on their mothers’ knee, not for children in our youngest classes. If we introduce such gifts into the school at all, our reason must be that we believe we can make good use of them there, and judge them to be the best playthings for children at the usual school age, and not merely because they were the gifts with which Froebel began. A child at four or five years old is very different from the same child at fifteen or twenty-five months, and his playthings and games must vary accordingly. To put it generally, we must not make our children play at being babies.

In this matter, as in much else, it is necessary to remember that it is the spirit which giveth life, while the letter killeth. It is the interpretation, or, if necessary, the adaptation of Froebel's teaching, and not the imitation of his methods, which is of real value in the school. The games and play-things which he designed for German children nearly a century ago may not be those which will best secure among English children to-day the ends at which he aimed. It is the end which is the important thing—to provide suitable opportunities for self-activity—not the means or the methods. If we believe Froebel's aims to be sound, we may seek to attain them by other means than his—not necessarily better means, except in so far as they seem better adapted to our circumstances.

Individuality.

Froebel's appreciation of self-activity springs from his reverence for the individuality of the child. He regards the ignoring of this individuality as the unpardonable sin in education. To impose her own individuality upon her pupils he would consider the worst blunder which a teacher could make; and yet this often seems to be our highest ideal of perfect teaching. A class of children who do just what they are told and nothing else, and who never have the opportunity of doing anything else, is, according to Froebel's view, the saddest sight which our schools could afford. And surely common sense is on Froebel's side here. There can be no more unnatural treatment for a young child whose essence it is to do what he likes than to mould him into a mere automaton, animated only by the will of another.

Happily there is enough human nature in most children to prevent such a consummation. Yet under many a strenuous teacher the pupil must leave his real individuality behind him when he enters the school door. The result of this is a divorce between school life and real life, which renders much of our school education useless in after years.

That education is received by the pupil only in the guise of a "schoolboy," and not of a real boy; and when the part of schoolboy ceases to be played, the habits and the learning of the school are soon forgotten.

Spontaneity.

Good conduct or conformity to rules Froebel regards as a virtue only when spontaneous, and he considers it a moral calamity that the teacher should place herself into the position where she must say, "Thou shalt," or "Thou shalt not." To avoid this calamity in our large classes will require the rarest tact and sympathy, the most thorough knowledge of children, and the most perfect example on the teacher's part.

It is not on the moral side alone, however, that Froebel finds spontaneity of value in education. On the intellectual side, as a means of self-expression, it has no less importance. It is this self-expression which gives their value to all his "Occupations." Whenever handwork becomes mere copying from an example, or the mere carrying out of some series of orders, it is missing its highest end. The copying of an example, or the carrying out of the teacher's ideas, has its value as an exercise in manipulation, and is a means of gaining manual dexterity. But dexterity is itself only an instrument after all. To be able to express an idea accurately is good; to be able to form an idea worth expressing, and then to express it, is better still. The cultivation of the creative power is better than the encouragement of mere imitation.

It is only by attempting to express an idea that one becomes quite sure that one has the idea, and it is only when expressed that the idea has any practical value. It may be possible to store the mind with ideas while neglecting the expression of those ideas, though this possibility can be fairly questioned. But a mind thus furnished with ideas is of no value to any one but its possessor, and is of very doubtful value to him. Whatever the form of expression

may be—speech, writing, drawing, or any other—expression is a necessary complement to the acquisition of knowledge in order to produce an educated mind.

Problems of Spontaneity.

In all this, it will be noted, Froebel takes no account of idle or mischievous pupils. Froebel did not believe that children naturally prefer evil to good. He believed that, in the atmosphere with which he wished to surround them, well-doing is more natural than ill-doing. There is much to be said for his view. Where cases occur that are plainly at variance with it, there is good reason to doubt whether the school atmosphere and the home atmosphere are quite of such a kind as Froebel desiderates.

As to the idle, the case presents little difficulty. During any period of school work children may certainly be found who would prefer to be doing something else; but unless they have been unduly fatigued, it would surely be hard to find any who would prefer mere inactivity to *some* kind of occupation. Doing nothing is the hardest task which can be set to any child. The problem for the teacher is to devise just such work as would be the very thing which her children would choose to do if they were left to choose for themselves. This seems to be a formidable problem; and yet, keeping in mind the sympathy of numbers and the strength of the imitative instinct in children, it is not an impossible one.

Had this problem been quite insoluble, Froebel would no doubt have discovered the fact. On the other hand, we must remember that Froebel was unhampered by any martinet system of "discipline," either instilled into his mind by tradition or imposed upon him by superior authority. It may readily be granted that spontaneity and individuality in the school are incompatible with that "discipline" which aims at having the whole school moved solely by the will of the teacher. But if one of these aims—"discipline" and individuality—must be sacrificed for the

sake of the other, it is our plain duty to see that the greater is not sacrificed for the less.

Moral Education.

To Froebel the greatest result of education is the moral result, not the intellectual. Yet he does not advise formal moral and religious teaching of the usual kind. The conduct of the pupil must be the outcome of his own will, wisely helped and guided, all through school life, and not the result of mere conformity to external law. In so far as good conduct has outside influence for its basis it has no moral value.

Froebel's "Mother Play" is really a symbolic expression of the deepest moral truths. But he is careful to say that these truths are not to be taught in words, but only expressed in the symbols which he has described. As in nature teaching he would have familiarity with the thing to precede any description of it, or any formal teaching regarding it, so in the moral sphere he would have the truth underlying an action left unexpressed, trusting to familiarity with the act to impress the truth symbolized.

The fable or the fairy tale is better without the "moral." The moral, after all, is usually added to save the pupil the trouble of thinking it out for himself. To be familiar with a certain form of right action in others, and to form the habit of acting so for himself, are much more important for the pupil than to learn *why* he ought to act in that way. To be familiar with a tale which illustrates a certain duty is a more powerful motive to right action than merely to know what duty such a tale teaches. The embodied truth is more powerful in the young mind, and more fruitful in action, than any naked and formal truth would be. The learning of truth in the form of symbol is appropriate to the age of childhood; the disentangling of that truth from the symbol, and the expressing of it in verbal form, is an exercise more suited to the mature mind, though even there the force of an embodied truth is often greater than that of a formal truth.

Such are only a few of Froebel's leading principles. His complete message cannot be given in any summary so brief as this, and its exposition already fills many volumes both in the English and in other tongues. Adequate criticism of those principles is still more impossible for us here ; only a few comments bearing on modern applications of them can be offered.

Freedom and Control.

At the present day, and in apparent conformity with Froebel's principles, we feel that there is in some quarters a tendency to insist on the individuality of the child being recognized and his freedom being preserved at the risk of losing what seems to be of even more solid value for education. This excessive respect for freedom is seen not in the daily practice of the schoolroom, or in the writings of practical teachers, but in books about children and about education written from the standpoint of the theorist or the intelligent observer.

The proper place for freedom and for control respectively is not easy to decide, whether in education or elsewhere. In considering the educative value of spontaneity and of obedience respectively, many things must be taken into account. One of the most important of these is the question of habit. Habit is at once the effect and the cause of character, and any education which values the moral end must take full account of its place and power. If the freedom of the child in school or at home threatens to result in the formation of habits of an undesirable or a pernicious kind, the wise teacher will not hesitate for a moment to restrict the child's freedom as far as may be necessary for the purpose of eradicating that habit, and of forming a habit of a contrary nature.

Necessity for Control.

That this is a common necessity every teacher knows only too well. Probably the existence of the bad habit may be due to the want of that atmosphere of which we

have already spoken—the surrounding of the child from the first with a wise and watchful love. The child ought, no doubt, to be so placed that he would have no opportunity of forming bad habits; but as a matter of fact, in the actual surroundings of many of our pupils there are suggestions, if not temptations, which make for evil in their conduct.

This being so, we have the choice of either allowing freedom to the child, no matter what his habits may be, or of looking only to the supreme end of education, and doing what seems best in the circumstances for attaining that end. We will then recognize that there is a distinct value in the child acquiring the habit of taking direct guidance in conduct from parent or teacher. If this guidance be wisely given, and as wisely withheld when that seems the better way, there is no real loss in the limitation of freedom implied. Freedom within certain limits is all that any individual can ever enjoy, and there is no valid reason why such limits should either be abolished or concealed in the case of a child at school.

Freedom and Suggestion.

With respect to intellectual training, again, there are some considerations which seem to limit the scope of spontaneity in school. These considerations do not, of course, involve a denial of the value of spontaneity, but they seem to indicate that this question, like all others, has two sides.

If we turn our attention to the play of the child, we shall find that he does not always prefer to follow his own lead, but that promptings from others, companions or elders, are often hailed with delight. There are individual differences, but many children seem to be happiest when they are being “helped” to play. Now it is in play, if anywhere, that suggestions from without would, in theory, be most surely destructive of enjoyment, and most certainly contrary to the child’s nature. When we find, therefore, that even in play suggestions from without and the influence of a maturer mind are not hindrances but rather

aids to self-activity, we may well expect to find the same in work.

The only limit to this exercise of influence which it seems necessary to mention is that the play should still be real play, and that it should satisfy the natural desires of the child—desires of which he may possibly be ignorant until they are awakened by the wise suggestions of the teacher. And it should also be mentioned that to play constantly under external suggestion would mean that the natural play instinct would probably disappear. For this is in its essence an activity in which invention and imagination must find an outlet.

The Place of Suggestion in Work.

When the occupation is something more serious than mere play—more serious from *our* point of view, that is, for play is actually the serious business of life to the young child—when some educative handwork, for instance, is to be done, the teacher's general instructions, when wisely given, are not felt as restrictions on freedom, but as helps to the doing of a piece of congenial work, to which the child will turn with as much pleasure as if the original idea of it had come from himself. If the work has been wisely chosen, with due account of the child's powers and of his needs, there will be a pleasure in the accomplishment of it apart from the incidental pleasure which may spring from the teacher's approbation. The child wishes to do the work for the pleasure of doing it, and he feels that the teacher knows best how the work should be done; hence the teacher's instructions come not as orders to be obeyed, but as helps in the doing of the work.

Again, there is a limit which should not be exceeded by such helpful suggestions from the teacher. They must not be so many or so constant that the child comes to rely on them for what he should be able to perform without them. It is the problem of the teacher to find the middle way—to leave scope for individuality and spontaneity and self-

expression in the work, while at the same time giving all the guidance and help needed to make the work pleasant, and also to have it so arranged that at each stage the child will be developing power to be applied in the next stage.

Other Aspects of Suggestion.

From the broadest and most general point of view it must be admitted that the habit of acting solely from inward motive does not always make for good in early life. It often leads to dissipation of energy and to frivolous and dilettante efforts. It has also an individualist and anti-social aspect which we need not insist upon at this point. Enough has been said to indicate that respect for the child's individuality and the exercise of his spontaneity must be taken not as absolute principles in education, to which all else must yield, but as principles of high value, to which we shall afford as much scope as we see to be good and as we find to be practical. And at the same time it may be well for us to remember that in our school work our chief temptation will be to leave, not too much to the child's initiative, but too little. In her ordinary work the teacher must supply that continuity and gradation of exercises which will make the various school tasks a means of developing power, and thus of furthering true education. At the same time these must be supplied in such a manner as to ensure that the child accepts the rôle assigned to him not only with resignation but with pleasure, and even with a feeling of freedom. In this way his self-activity will be guided, and even limited as far as may be necessary, but will never be eliminated.

Herbart.

From Pestalozzi and Froebel to Herbart is a somewhat sharp transition. It is, however, a transition necessary for every teacher to make. One feels it difficult to understand why teachers have heard so little of Herbart in this country until quite recently, and why "Herbartianism"

should even yet be regarded as an obscure sort of cult, or at the best an educational fad of somewhat doubtful utility. In many respects Herbart is more "English" than either Pestalozzi or Froebel—especially, perhaps, in the great value he attaches to instruction, and in his views regarding school discipline or "government."

Herbart's interest in education was philosophical rather than philanthropical or emotional; and he brought to its study a mind of academic training and of great depth and acuteness. His work is one of the few contributions of real value which the University has bestowed upon the common school. Much of that work is chiefly of value to the teacher of older pupils, but the infant teacher will also find in it helpful illumination.

Like Froebel, Herbart need not be read either in his own tongue or in a complete translation. Indeed, it may be said that for the infant teacher the part is better than the whole. For a theoretical justification of his precepts a thorough understanding of Herbart's philosophical position is necessary, but to the practical teacher these precepts for the most part carry their own justification with them, and need no other.

Herbart and Froebel.

As regards theory, Herbart's view of the child is diametrically opposed to that of Froebel. So far from the mind of the child bearing within it in germ all that it will become, as if it were the germ of a plant, the mind is, according to Herbart, at first nothing at all—a mere zero or 0, which occupies the empty space until some significant figure takes its place. The real mind is to be built up out of ideas which enter it by their own force rather than by the mind laying hold of them. It is this formlessness and want of content which Herbart regards as making education at once necessary and possible. If the mind has already present in germ within it all that it will become, then we are shut out from all possibility of altering its destiny. But since the mind is to be actually made or built

up by ideas, we can select the ideas which will go to its making; and thus education has a real meaning.

The Question of Determinism.

The thorough-going followers of Froebel and those of Herbart, therefore, occupy an irreconcilable attitude towards each other. The curious thing about their quarrel is that each party accuses the other of the same error—namely, determinism. The Froebelian is said to err in that his theory regards the child's nature as predetermined from within, and no place is left for change through his enlightened will; all is already present in germ. The Herbartian, on the other hand, is said to regard the child's nature as entirely determined from without. What he will become is mechanically fixed by the ideas which are presented to him; and again there is no place left for the exercise of free will.

The plain and unphilosophical person can watch such a contest with equanimity, however; for he knows that both freedom of the will and determinism, outward and inward, are undeniable facts for experience and for reason, and are also facts which will never be reconciled, and so he does not trouble himself further in the matter. The charge of theoretical determinism he feels to be no objection to either educational system, and therefore he proceeds to estimate each on its educational merits. The plain person sees that it does not much matter whether the gardener thinks the principal thing to be the germ of a plant, or the food out of which the body of the plant will ultimately be constructed; whatever may be his theoretical views of the matter, his skill will dictate the same practical plans for furthering the growth of the young plant.

In practice, accordingly, the Froebelian and the Herbartian may not differ very much in their work. And as our aim in this study is chiefly practical, we will try to find instruction and stimulus in both Froebel and Herbart without attempting to justify either as to the philosophy of

his system. We shall find that each has called attention to real facts in child life, and is therefore helpful to the teacher. If the one or the other has erred in supposing that he has given us *all* the facts, that is another matter, and does not cancel the positive benefits conferred by his discoveries. And if we really wish to help to a reconciliation between the two parties, it seems that we could not do better than to suggest to each that they are both right, and are only wrong in denying that the opposite view is also right. In most fundamental questions there are two opposite sides which are both right, and are each as important as the other.

Herbart's Educational Aim.

With Herbart, as with all great educators, the aim of education is to form the character, or to develop a good will. (Whether there is really any *logical* place for the will under Herbart's theory we need not stop here to inquire; our interests are practical rather than theoretical, as we have said.) But he is aware that the will never acts in a vacuum, or merely formally. It always acts in certain definite circumstances, and according to the interests and desires of the individual. He points out further that the interests of the individual are limited by and are dependent upon his knowledge, for one has no desires or interests regarding that of which he is ignorant. In this way Herbart shows the importance of *knowledge* as well as of discipline in forming the character, and for this reason he assigns to instruction a much more important function in education than any of his predecessors in the field of educational reform.

Discipline, in the sense in which the term is used by Herbart, comes somewhat late in school life, for he regards it as the exercise of the pupil's will when informed by instruction. What we usually call discipline in school he calls *government*, and this he puts in the forefront of school work as being necessary to the formation of right

habits and to the efficient carrying on of the main educational work—that of instruction. This view is likely to commend itself to all teachers in actual school work.

Apperception.

It is in the sphere of instruction that Herbart seems to be of the greatest service to the teacher. His theory of the growth of knowledge, or his doctrine of Apperception, is to the infant teacher the essential thing in Herbartianism. Some theory of how knowledge grows must lie at the root of every attempt by the teacher to increase knowledge. The theory may not be much before her mind, and it may be one which she has never formulated in words, yet she must have some more or less distinct notion of how things get into the “heads” of her pupils.

She may picture to herself the mind of the child as being somewhat like a smooth tablet, on whose plastic surface there may be impressed by frequent repetition items of information expressed in definite words and sentences. She may regard it as the sensitive plate in a camera, which will receive and retain the images of real objects selected from the outer world and presented to it. Whatever her theory may be, it will in some degree determine her methods of selecting and presenting new facts and ideas to her pupils. And we should note the fact that, however inadequate or unnatural her theory of knowledge may be, the new ideas which she offers *will be* more or less assimilated by the mind of her pupils; for human nature seems to lead the teacher instinctively to teach better than her theories give any warrant for doing. Our practice is never quite so bad as most of our theories are.

Yet it is important that we should adopt a theory which will justify our best methods, and will stimulate and direct our practice. Herbart's theory is such a one. However much we may dissent from its metaphysical basis, and however strongly we may feel that the basis does not warrant the superstructure, the doctrine of Apperception

is certainly of unique value in rationalizing the methods which have been found to be best in practice, and also in suggesting methods which may be new to us, but are none the worse on that account.

Ideas as Active Forces.

To the teacher anxious to find out just how the child's mind acts in receiving, or in failing to receive, new ideas, Herbart would simplify the problem by saying, "The mind does not act at all; it is not the mind but the ideas themselves that act. Study the action of ideas, and leave out of account the mental powers and faculties; there are none!" This attitude certainly promises to simplify the problem of how knowledge grows. Perhaps, however, it will prove sufficiently complex even if we grant Herbart's position.

Let us accept that position, and see how it applies to the common phenomena of actual life. In the world around there are at any given moment an infinite number of possible ideas lying in wait for us, ready to demand admittance into our mind. Some of them gain an entrance, others do not. If two individuals are placed in practically the same surroundings, looking at the same object or the same picture, or reading from the same book, each of them may receive a stock of ideas almost entirely different from those received by the other; the difference may be so great, indeed, that there is almost nothing common to the two groups.

Example.

Let us take an example of a familiar type. A painter and a fisherman looking at the same sunset, a geologist and a farmer viewing the same landscape, will receive groups of ideas and impressions which have little in common. Whence arises this difference?

Herbart's answer is simple. The admission of new ideas into the mind is due to the presence already in that mind of certain ideas which are akin to the new. "It is

not the eye that sees, but the mind." When we look at a scene, we see in it only what we already have the power of seeing. The farmer, whose mind is already stored with agricultural ideas, sees in a new landscape only facts of the same nature. He does not observe the geological facts that are staring him in the face, unless he already has some knowledge of geology. In a brilliant sunset the painter sees colour and form, a picture crying out to be embodied on canvas; the fisherman sees weather signs and warnings of storm. Each again receives new ideas of the kind which he already possesses.

How Ideas Act.

Thus we may see exemplified Herbart's theory of ideas as active powers—as attractive centres drawing to themselves related ideas from the unlimited variety without. Each attracting group of ideas thus becomes larger and stronger by the addition of new ideas of a kindred type; and those new ideas are not only attracted to the old, but are assimilated by and unified with them, while the old are in their turn enriched and modified by the new. Herbart finds in ideas first an attractive power, and then a chemical action. By those two forces of ideas does our knowledge grow, and groups of related ideas, which Herbart calls *Apperception-Masses*, are built up in the mind. These masses may be few but powerful, as in the case of the specialist in any department of knowledge; or they may be many and varied, forming a well-balanced mind, the result of a liberal education rather than a special training.

To the man of general culture, as distinct from the specialist, there is no aspect of human life or of inanimate nature which does not appeal in some measure to the mind. Apperception-masses of all kinds are present, and are connected with one another in every direction. The specialist must know "everything about something," which "something" is his own special field of study. The educated man must know "something about everything," his field being the

world. It is this latter type of mind which the teacher of the common school must aim at producing. Needless to remark, the teacher herself must first possess a mind of the same type.

Knowledge already possessed.

According to Herbart's view of knowledge the teacher is delivered at once from the whole hierarchy of the mental faculties. There are no longer any faculties to study. Activity belongs to the ideas alone. And this activity is mainly of one kind—simple attraction of the similar, which on the negative side appears as repulsion of the dissimilar or unfamiliar. So, in presenting new ideas to her class, the one question which the teacher has to ask, but an all-important question, is, "What do the children already know of the matter in hand?"

Absence of previous Knowledge.

If she finds that her children know nothing of the subject, and possess no ideas at all akin to those which she wishes to present, what is she to do? She must select some subject or line of thought which is within the circle of their present knowledge, and is at the same time related to the new which is to form the real subject of lesson, and this *intermediate* series of ideas will serve to introduce some of the new class of ideas which it is her intention to give during the lesson proper. Thus, by means of something at least partly known, she will be able to communicate ideas which, without this introduction, would find no entrance into the minds of her pupils. The intermediate idea or group of ideas or facts, as has been well pointed out,* acts as a person who first gains admission to a club through being known to some member of it, and then in his turn introduces a friend of his own who is known to no one in the society but himself. Without this intermediary, the latter person would have no chance of being admitted. The introductory ideas, in the same way, act as a bridge

* "Herbartian Psychology," by Professor Adams.

by which connection is made between one group of ideas and another group not previously related to them, and thus knowledge advances by steps, and not by leaps.

A Law of Mental Action.

The process now described may at first sight look like another way of stating the old educational maxim, "From the known to the unknown." It is more than this, however. It is not the statement of a rule of expediency; it is the statement of a law of mental action. It does not say that we had better proceed from the known to the unknown; it affirms that we cannot proceed in any other way to give new knowledge. The unknown can only be apprehended through the known; or, to speak more accurately, the less known is always apprehended by means of the better known. To see a thing is not necessarily to know it, for we can only see in it facts of a class with which we are already more or less familiar. Once more, it is not the eye that sees, but the mind; not the ear which hears, but the mind. And the mind can only receive ideas by sight and by hearing when it already has within it kindred ideas, and when these ideas are brought to our consciousness, and stand at the threshold to welcome their kindred from without.

All Knowledge connected.

Is it always possible to find ideas of the intermediate or introductory type of which we spoke? It is, if one knows where to find them, or where to look for them. No part of human knowledge or experience is without relations to every other part. One mark of a well-trained mind is just this, that the proper connections have been formed between the various classes of ideas which make up its furnishing, or which, according to Herbart, build up and constitute the real mind. The uneducated man may have two ideas which are really closely related to each other, but he may fail entirely to see their connection.

The skilful teacher is always able to introduce the unknown by means of something partly known, even with her youngest pupils, and it is with the youngest that the difficulty of so doing is greatest. As the circle of the pupil's ideas enlarges, the available points of relation increase with great rapidity, and the difficulty of knowing where to begin becomes less and less. Hence one reason why the youngest pupils should always be under the most skilled teacher. The fewer ideas the mind contains the fewer will it receive by its own unaided action from among the indefinite number which are offered by the subject of study. The fuller the mind is of ideas, the richer in new ideas does it find the world of things and of men, and the less need has it of the teacher's guidance. So knowledge grows and increases according to a geometrical ratio. "Unto him that hath shall be given" expresses a law of nature as seen in mental action.

The Problem of Children's Knowledge.

The subject of Apperception is too wide and too deep to be adequately presented in those few paragraphs, and the teacher who is not already familiar with it should lose no time in studying the subject in detail in the writings of Herbart or of his followers. As we have already said, it will be found to justify and to illuminate all sound educational methods, and it will help to abolish many crude rules of thumb which may still persist in obscure corners of the educational world. The doctrine of Apperception will be seen to have a very intimate connection with that study of children which we have already discussed. It shows the importance of the teacher knowing not only the hypothetical normal or "average" child, but also the individual children who form her class. She cannot begin to teach any lesson until she has at least some fairly correct idea of the extent of her pupils' knowledge regarding the subject of the proposed lesson. To present new ideas to their minds without first knowing whether there are any kindred ideas ready to secure their admittance

is worse than building without a foundation, for the ideas which are to form the building cannot actually become ideas at all unless there is a foundation laid. Only by contact with that foundation do they actualize themselves as building material.

For the teacher, therefore, Child Study can never become an accomplished work, but must always remain a continuous process, as each child advances in knowledge step by step under her guidance, and as each new class of pupils comes under her care. But in virtue of the same law or process of Apperception, her own mind becomes increasingly efficient in the kind of study required. She sees her pupils with the eye of an expert, and by indications invisible to less trained eyes she is able to gauge and to determine the limits of their little circle of thought and experience, and to add thereto not only with the patience which springs from sympathy, but with the skill which is born of enlightened study.

The Doctrine of Interest.

There are many other parts of Herbart's teachings which are of use in the Infant School, and among these must be mentioned his doctrine of Interest. Interest, in the usual meaning of the term, has been known and valued by all teachers, whether they have ever heard of Herbart or not. Many plans, pathetic in their goodness of intention, but otherwise ridiculous, have been invented for making dry and abstract facts "interesting" to children. Subjects have been invested with a fictitious interest which does not in the least belong to them—subjects which do not and ought not to possess any interest for a natural and healthy-minded child. This is not Herbart's view of interest, however. Such procedure, he would say, entirely reverses the parts which knowledge and interest ought to play in education.

Interest inherent in Knowledge.

Interest is not something external to knowledge which is to be artificially joined on to it to render it palatable.

It is the property of knowledge to produce interest, rather than of interest to produce knowledge. That which we do not know cannot possibly have any interest for us. If we are led to study any subject which is new to us because we feel an interest in it, that interest arises from some little knowledge which we already possess regarding the subject. As our knowledge widens, our interests widen, and accordingly one way of stating the problem of education is to say that it should awaken a balanced and many-sided interest in the mind. It is of some importance for a teacher to master this doctrine of interest, if only that she should be delivered from the dreary task of inventing ways of making things interesting to her class. The things will make themselves interesting, if only they are understood. All that remains for the teacher—and it is enough—is to present the material of instruction in such order that it can be naturally apperceived, laid hold of, and assimilated by the pupils. Interest will be awakened by the knowledge, and this interest is a spur to further acquisition of knowledge, which in its turn arouses new interests.

Knowledge, Herbart would say, is not an unpleasant bolus which must be disguised by a sugar coating of spurious and fictitious interest. Knowledge has its savour in itself. It is the food of the soul—a food of no earthly ingredients; it is ambrosia, the food of the immortal gods. When this is presented aright to the human soul, no baser element need be added to awaken appetite, or to aid its assimilation with the incorporeal essence of that soul.

Interests natural to the Child.

Teachers may here recall that there is more than this to consider in the matter of interest. The kind of thing or the occupation which appeals most to the child according to his stage of advancement will, other things being equal, produce the highest degree of interest in his mind. While Herbart's doctrine holds good of knowledge in general, knowledge is never presented "in general," but as knowledge

of some particular fact. The selection of the facts is a different question, the importance of which will be best appreciated by those who have given attention to the study of children's interests, which vary with every stage of growth.

Culture Epochs.

Here also Herbart has some help to give the teacher. The doctrine of Culture Epochs, which has, however, been developed by the followers of Herbart rather than by himself, is a suggestive theory to put alongside of the empirical study of children's interests. This theory is that the individual child passes through stages of development parallel to those through which the whole race has passed in its gradual advance from the primitive and perhaps savage state to the stage of modern civilization. At one period the boy is a mere savage in his tastes and interests. Afterwards he reaches a stage corresponding to the culture of the simple nomadic peoples, with the passion for animals as pets and playthings. He next becomes a tiller of the ground or a builder of houses, and in his play he thus "recapitulates" the various stages of civilization of his forefathers.

Whether the teacher can agree with all that has been said on this theory of Recapitulation or not, she must take account of the well-known phenomenon which it is designed to explain—the changing and advancing of the child's natural interests from the more simple to the more complex. The fact is well known to the student of children, and the teacher must keep it in mind in the selection of the material of her curriculum, while at the same time she tries to guide her methods at each stage in accordance with what Herbart has taught regarding the universal connection between knowledge and interest.

We cannot here trace the development of the doctrine of interest, or show how it advances from the *empirical* interest awakened by the mere appeal of things to the senses, to the *speculative* interest awakened by the perception of the causes at work in nature, or how it rises to the *æsthetic*

and the *religious* interest. Nor can we follow out his teaching regarding the connection of interest with the will and the desires, which are limited in the same way by the circle of knowledge. Much of this goes somewhat beyond the sphere of the Infant School, and is applicable to the complete education of the child; but all of it is full of valuable suggestion to the teacher, and may form the basis of many useful rules of conduct. Even the teacher of the Infant School will find it useful, for we can never know anything thoroughly unless we know something beyond it. The teacher who knows only the education of the Infant School knows even that imperfectly. To understand her own sphere of education she must know the other parts of it also, and for this reason it must be kept in mind that all the message of Herbart is of use, though not of direct use, to the teacher of infants.

The "Minor Prophets," and Modern Literature.

With Herbart we must stop our short account of the prophets of the Infant School. It would be a serious mistake, however, to suppose that the writers here mentioned are the only ones who are helpful, or whose works are worthy of study. Especially valuable are the lessons which may be drawn from the successes and the failures of the working pioneers of infant education, such as Oberlin, the "founder of Infant Schools," according to Mr. Holman, and Owen, Wilderspin, and Stow, the founders of English Infant Schools; but any account of their work would soon carry us beyond the possible limits of a handbook such as this.

Again, there are books and magazine articles on educational topics appearing every day, many of which are of very special value to the teacher of infants. In America especially such literature is pouring forth in an ever-increasing stream, and no teacher can expect to see more than a small portion of the whole. An excellent plan is to become a reader of one or more of our best educational periodicals.

in which the teacher will find not only many occasional articles of interest, but also notices of other articles of value which appear elsewhere, and of the best new books which are issued from time to time. In this way alone will she be able to keep herself informed as to the advances which are being made, and to be abreast of the thought of the day on educational topics.

We have mentioned that the supply of educational literature is more copious in America than among ourselves. The American teacher not only reads more in the literature of her profession, but she also takes fuller advantage of the interchange of opinion which takes place in the various Congresses and Teachers' Institutes and Summer Gatherings held for this purpose, arranged and superintended by school inspectors and superintendents. One reason for this difference, no doubt, is the larger number of teachers who enter the profession with little or no professional training, and the consequent need for the study of education after the work has been actually undertaken. But the fully trained and qualified teachers are not behind the others in their use of these means of further study in their profession, and the result of this is that no teacher regards her training as completed in the Training College. The belief that no further study is needed by the trained teacher is not now so common, probably, as it once was among us, and special classes for the study of this or that subject are increasing in number every year. This is a sign of a healthy mental outlook. It is no doubt accompanied by a similar increase in the amount of reading done by teachers, both professional and general.

General Culture of the Teacher.

Every teacher feels that the demands of her professional training are a more or less serious hindrance to the acquisition of a liberal education; and if there is any teacher who does not feel and regret this fact, the reason is likely to be that the desire for the latter has been completely stifled

by the pressure of the former. We have not all had time to acquire both skill and culture. Yet there is no profession in which true culture tells more for professional success. If we could imagine a teacher who is merely an educationist, even with the greatest possible ability in her own special line, she would not be by any means an ideal teacher. The very highest results of the teacher's work depend not upon what she knows or does, but upon what she *is*.

The specialist in other professions, the surgeon or the lawyer, may win success in his work merely by dint of professional skill and dexterity, and it may even be quite immaterial whether he is a man of culture or not. This can never be the case with the teacher. A certain success can indeed be attained through mere professional skill of the narrowest kind, if it be thorough as far as it goes. Perfect order, accurate arithmetic, correct spelling, and many other results which for many years were measured and valued as the only "results" worth taking account of—all these may be and have been attained by teachers whom no one would dream of describing as cultured or well-educated.

But these are not the true results of the teacher's work. Something quite other than any or all of these must be her aim—something which cannot be taught by any rule or measured by any examination, something which will remain when all these "subjects" and "results" have been forgotten by her pupils. The real and abiding result of the teacher's work is her influence on the whole character of her pupils. Her most unpremeditated acts and her *obiter dicta*; her general outlook on men and on things; her appreciation of what is true, and beautiful, and good; her deepest enthusiasms and sympathies; her passion for righteousness and her indignation against baseness; the teacher herself as she is, and not as she thinks herself to be or wishes herself to be thought,—these are the things that are of most consequence in her work, and have the most enduring effects upon her pupils.

Professional Literature and Study.

While this is true, and is the deepest truth of all regarding the work of the teacher, there are also the outward and visible means of education to study. There are instruction to impart, habits to form or to eradicate, aptitudes to cultivate, powers of mind and of body to develop, dangers to guard against in every department of the pupil's nature. For these and other things professional study of the most thorough and extensive kind is needed, along with the practical training in the use of these studies.

The point from which we diverged a few paragraphs earlier, and to which we now return as a close to this section, is this, that our professional studies must be continued throughout our professional life. Not our professional studies alone, of course, for to confine our reading to professional literature would be to forget the value of that general culture of which we have just been speaking, and which is of higher value in our work than any professional skill. We shall take it for granted that the teacher will read and study all her life; and here it is enough to say that her reading must include the best, both old and new, that the masters of her profession have to offer. We should also strongly advise her to unite with some congenial circle of her fellow-workers for the study, from time to time, of educational problems and of the problems connected with the treatment of children. If any individual teacher finds that such interchange of opinions as takes place at conferences and other meetings of the profession does not bring much new light to herself, she should still regard taking part in them as a duty to the younger or less experienced members of the society. The proverb as to "iron sharpening iron" need not be restricted in its application to one sex, or excluded from any sphere of human activity. It may, however, be added that the benefit derived from such meetings for study and discussion will in all probability be in inverse ratio to the numbers

present at them. The most helpful of all is the meeting which is so small that every one not only has the opportunity of speaking but must take an active share in the discussions. A teacher hardly needs to be warned of the dangers of large classes, whether the class be formed of children or of teachers, and whether it be engaged in mutual instruction or in some other form of study.

The following books will be found useful:—Educational Reformers (Quick); Oberlin (Holman); John Amos Comenius (Laurie); Comenius's School of Infancy (Monroe); Froebel (Bowen); Froebel's Educational Laws (Hughes); Froebel's Pedagogics of the Kindergarten (Jarvis); Herbart (De Garmo); Herbartian Psychology (Adams); Lange's Apperception (De Garmo); Rein's Outlines of Pedagogics (Van Liew); Introduction to Herbartian Principles of Teaching (Dodd); Nature Study and Fairy Tales (Dodd); together with numerous biographies and translations.

CHAPTER V.

THE PUPIL.

THE pupils of the Infant School are, of course, infants. What is an *infant*? A medical man would probably understand by the term *infant* a child of not more than three years old. After this age the period of *childhood* begins, and extends to about the age of seven years.

The sacred number seven has more than a traditional or superstitious significance. In human life there are physiological and psychological grounds for marking the ages of seven, fourteen, twenty-one, and even some of the more advanced sevens, as real milestones on life's journey.

Stages in Growth.

The uphill and the downhill gradients of life are not planes of uniform inclination throughout their respective lengths. There are points in the ascent where we may say the road rises more steeply, and others where one jogs along more easily. In physical development the process of growth is divided into periods which differ much in their rate of increase. Weight increases more rapidly at one age and less so at another. Size also has its times of rapid advance and its times of pause ere the high-water mark of complete stature is reached. The growth of special organs, such as the brain, or the teeth, or the muscles, is a process which does not move forward by equal yearly stages, but which has well-marked periods of activity and of com-

parative rest. The result of these differences in the rate of general and of special growth is that the balance of energy between the different parts of the body is different at one time from what it is at another. This difference is reflected in the mental processes, so that the child is practically a different kind or type of individual at one age from what he is at another.

It is by such variations in the phenomena of growth that the periods of *infancy*, *childhood*, and *boyhood* are punctuated and marked off from one another. These common names denote not merely traditional but real periods in growth, each period having its own distinguishing character, and demanding treatment appropriate to its special needs.

Corresponding Stages in Education.

The importance of recognizing this fact in education can hardly be over-estimated. True, we already have our course of education divided into the stages of the Infant School, the Primary School, and the Secondary School, corresponding generally with the first, the second, and the third septennium of life respectively. It is to be feared, however, that the education provided in each of these school periods has not yet been consciously planned out and adapted to suit the special characteristics of each growth period.

Rules of thumb, evolved through long experience, are usually wiser than their origin might lead us to suppose, and there is, of course, much that is scientifically justifiable in our traditional curriculum. On the other hand, there is much that our knowledge of childhood must lead us to condemn, and in no period of school life is this more evidently the case than in the Infant School period.

The Curriculum of the Infant School.

This need not be wondered at. The Infant School is itself in its infancy as compared with the Secondary and even with the Primary School. It is practically an invention of

last century. When a curriculum for infants came to be devised, what could be more natural than to base it upon that already in use in the Primary School ?

The history of our schools is the story of an edifice built from the top pinnacles downwards; and even now we are not quite sure of our foundations. The Grammar School took its curriculum from the University, the Primary School from the Secondary, and the Infant School from the Primary. The children were younger than those in the school above; that was the only difference to be taken into account. The same education, simplified to suit the "weaker capacity" of the children, was the only curriculum that could be thought of. Thus we had the reading and writing of the Latin tongue, the vehicle of all humanistic culture and the tongue of the learned professions, simplified downwards into the reading and writing of the mother tongue—a daring innovation in its day—books being still regarded as the fount of all knowledge and wisdom. A further simplification gave us the rudiments of the "Three R's," precocious proficiency in which was the crown of glory in all successful Infant School work.

Constructed on a Wrong Basis.

This process of mere simplification and adaptation would, perhaps, be justifiable, and even sufficient, if growth and development were a movement along a uniformly inclined plane—if the child were merely smaller and weaker at six than he is at ten or twelve, and not otherwise different. It is neither justifiable nor sufficient, however, if a closer study of growth in the child shows that he is at those different ages specifically different in his whole nature, mental and moral as well as physical. If nature devotes special times to the growth of certain parts, leaving other parts comparatively quiescent till a later time, educators would do well to follow nature's example. If education is the guidance of growth, the special growth which is "in season" at any time is the growth which needs guid-

ance, and not that which has either passed its active period or has not yet awakened into activity. The fact that such specific differences do really exist between different periods is now fully established.

We cannot, therefore, construct a suitable curriculum for the Infant School pupil on the principle of regarding it merely as a preparation for the next grade, the Primary School. It is, of course, equally true that we cannot construct the curriculum of our Primary School by regard to the work which is to be done in the Secondary School, or of the Secondary School course by regard to any further stage, such as the University or the Technical College. All these things have, no doubt, been done, and they may even be defended by certain specious arguments; but they stand condemned by the principles on which all education should be based.

The Present must be Considered.

Each stage of life is certainly a preparation for the next stage, but it is more—it is also in itself a part of life, and as such it has claims to be considered as much as the following stage. Moreover, the perfection of the next part can be reached only through the perfection of the present. Each period has a perfection of its own, and if we attempt to secure a fuller perfection for the next by any sacrifice of the present, we shall only defeat our own end. The over-prudent man of business who stunts and maims the perfection of his prime in order to accumulate the means of fuller enjoyment in his later years may succeed in his aim so far as the means are concerned, but only to find that the enjoyment itself has escaped him—the capacity for enjoyment has disappeared, having been atrophied during the struggle for its ultimate gratification. In early life a similar result follows the attempt to benefit the future by the sacrifice of the present; but as all the vital processes are then more active, and the nature consequently more plastic, the evil is more readily done, even if there is also more hope of repairing it in some degree.

In arranging a curriculum for our Infant School, therefore, we may—indeed we must—keep in mind the future perfection of the individual; but we must primarily consider *what he is at present*, and what are his powers and his limitations, and his special characteristics.

The “Infant” as he is:

This “infant,” then, of our common school nomenclature is a boy or a girl in the second part of what is more properly described as “childhood,” from the third or fourth to the seventh or eighth year. What are the best occupations for him at that period? And, in order to determine this, what are his natural characteristics during that period of his life? His natural instincts and his natural powers will tell us what nature intends him to be about, and what kind of work he can do with advantage. What are these instincts and powers?

A complete answer to this question would seem to be necessary before we begin to arrange our school work for the child; and yet it is hard to say where such an answer may be found. There are, however, a few well-known facts at our service to guide us in some measure.

Growth in Early School Life.

By the time our pupil comes to the Infant School he has made no little progress in life. His growth and his education alike have been in active progress, from the day of his birth onwards, without waiting for the guidance of the teacher. During those years of infancy his most marked advance has been in physical growth. In his first year, apparently, he did little but grow. He reached a weight equal to about half what he will have attained at the end of his Infant School course, and he increased in stature at a rate which he will never again equal. And he has been growing since then, though with less alarming rapidity. He will continue to grow while he is under our care also; but he has now the teacher as well as the mother to reckon

with, and school life, we must confess, is not always helpful to natural healthy growth.

Physical growth, evidently, is what nature chiefly intends our pupil to accomplish in his earliest years at school, and if we are wise we shall take much care not to hinder nature's plan. It will be useful for us, therefore, to make a few simple measurements when he first comes to school, to keep a record of these, and to repeat our measurements once or twice a year for the purpose of comparison. This will not make the pupil grow, of course, but it will tell us whether or not his growth is proceeding as it ought. It will be somewhat of a safeguard to him, and the record will be of much greater practical use than any record of the object lessons and other items of instruction which he receives at our hands.

If we find anything defective about the boy's growth, we shall have to consider whether the cause is to be found in his school life or in his home circumstances, and to see what can be done to remove any hindrances which exist; for if he misses the physical development which is due at this period, we cannot send him back again to make good the deficiency. As for instruction, we can do something later on to remedy deficiencies. It is otherwise with growth. That must come at the proper time, or not at all. So we shall attend to the "compulsory subjects" first, and these are the proper lines of development of the physical frame.

What Rapid Growth demands.

Any one who has to do with the rearing of young animals will tell us that when an animal is growing rapidly it needs, above all, abundant *nourishment*. This includes fresh air and warmth and other necessities of life as well as food. *Exercise* is needed, too, such as nature prompts the young animal to take; but we must be on our guard against anything which involves strain, or a greater waste of tissue than the animal is able to make good, with plenty to spare

for the increase which growth implies. We should also be told that the treatment must vary with every individual to a certain extent, and that hard-and-fast rules might result in the spoiling of some first-rate animals. So much we may learn from any horse or cattle breeder.

Without following up the parallel too closely, we may safely assume that our pupil is a young animal, and that he deserves at least as much care at our hands as a well-bred steer or colt; and therefore a competent study of his physical condition and needs will be required from us before we can enjoy the consciousness of our duty to him having been fulfilled.

It is not our work as teachers to superintend the feeding of our pupils in school, but it is clearly our duty to *know* if their feeding at home is insufficient; and where charitable effort comes in to supplement such deficiencies, the teacher will often be able to afford much valuable aid in the direction of such efforts. No one ought to know better than the teacher where aid is required. Her knowledge may warrant her in offering advice and otherwise co-operating with the home where defects in nourishment are due not to poverty but to simple ignorance or want of care. In many points the infant teacher needs to be in closer touch with the home than any other teacher. There is, as we have said already, more of the mother element in her work than in that of other teachers.

Plasticity during Growth.

A period of rapid growth is a period of great *plasticity*. The building up of the body by the addition of new material gives us the opportunity of moulding, and permanently moulding, the growing frame. Our pupil is now, therefore, at a stage when *physical habits* are easily formed. This deserves our attention.

A boy may come to us with many undesirable tricks of movement and attitude and gesture. These are more easy to alter now than they will be later. At the same

time there is also greater danger now of his learning other undesirable tricks of this nature while he is under our charge. This danger exists in connection with much of our ordinary school work. If we place him in positions which he cannot maintain without fatigue, or allow him to stand too long in one position, or to sit on a bench without support for back or feet, or let him work at a desk to which he must stoop, or allow him to walk with a slouch, or to do any of the undesirable things which will occur to the mind of the teacher in this connection, we are really moulding the pupil's body for him in a way which may hamper him all his life long.

Relative Size of the Pupil and his Surroundings.

Our pupil has grown well before he reaches school, but, after all, he is perhaps only about half our own height. This is a fact of which we are apt to miss the importance in school; it might be of advantage for us to base on it a few problems in simple proportion. All the linear dimensions of things in and about the school are twice as great for the pupil as they are for us. In other words, we must multiply all actual dimensions by two before we can realize how they look and feel to the child. The steps at the door and in the gallery are, then, ten or twelve inches high to him; the door becomes a huge structure sixteen feet high and seven or eight feet wide, while the wood of which it is made seems four inches thick. And this heavy gateway is to be opened by means of a knob some five inches across—a most unsuitable thing to grasp in our hand. How could we open and shut such a door as quietly as we ought?

But our simple proportion will carry us farther than the linear dimensions of things. We must, in the same way, multiply all surfaces by four, and all solid content by eight, before we realize the pupil's point of view, while weights must be multiplied by some quite unknown factor which will represent the ratio of the strength and endurance of

the boy's muscles to those of our own. Applying this calculus, we find the reading-book swelling to a tome whose pages approach those of an old folio in size, and its weight such as to make it at least a highly inconvenient volume to hold long in one hand, as we expect the pupil to hold his book. The slate—if slates are still allowed inside the school, and not confined to the roof, their proper place—becomes under this treatment a slab of stone which we should soon tire of using for its traditional purposes. Even the pencil and the penholder take on unexpected dimensions. They come to resemble those large show specimens which are sometimes seen in stationers' windows by way of advertisement, but are not used by people of ordinary stature.

Difficulties arising from this.

These exercises in proportion are not mentioned simply for their curiosity. They may be of much service in helping us to realize the difficulties due merely to the *size of things* which beset our young pupil. In order to realize some of the difficulties in writing a copy, for example, the teacher might take a page of twice the length and twice the breadth of the ordinary copy-book, and a pen or pencil of the mammoth size already hinted at. She might then try to hold this pencil in the orthodox way with her left hand; for along with other peculiarities our pupil comes to school with two left hands—that is to say, his right hand has not yet acquired any of that conventional cunning which makes it in later years so much more efficient in certain kinds of work than his left. The letters should now be traced to twice the height of the ordinary school writing. But to make matters quite even as between the teacher and the pupil, the letters chosen for tracing must not be those of our own alphabet, but of some foreign one which is as little known to the teacher as ours is to the pupil—Arabic or Burmese, for example. After a little practice of this nature the teacher will be in a position to realize some of the difficulties of school work for a child.

It may also lead her to reconsider some of her methods of work, and even to omit from the course some things which have hitherto been thought essential.

Growth of the Brain.

Not only does the child differ from the adult in absolute size, but also in the *proportion* of parts of the body, as in the relative sizes of head, body, and limbs. The greater relative size of the head must have struck every observer of children, and it is not without meaning for the teacher. It indicates that in early life the brain has grown much more rapidly than the rest of the body. Now, as the brain is the part of the physical constitution with which the teacher supposes her work to be chiefly concerned, this fact demands some notice here.

We cannot measure in school the brain of the pupil as we may measure his stature or his weight, but we may learn from the works of special observers what are the ascertained facts of its normal growth. The tale which these observers have to tell may give us some material for thought.

By the time our pupil was a year old, his brain had grown to nearly half its adult weight. Before he comes to us more than three-fourths of its full weight has been attained, and when he leaves us for the Primary School his brain has practically reached its full size. At first glance this seems to indicate that, whatever his unfitness for muscular work may be, he is at least well able to undertake a goodly share of "brain work." A little further thought will show us exactly the reverse of this.

The primary need during a period of rapid growth is abundant nutrition, not exercise. When any special organ is at a time of active growth, it seems obvious that any condition which involves unnecessary *waste* of tissue must be in direct conflict with nature's work, which is the *building up* of tissue. Anything of the nature of close mental application, or "brain work," is therefore entirely

out of place in the Infant School, and cannot be introduced into it without distinct danger. The more ignorant we feel about the kind and extent of this danger, the more faithfully should we adhere to the useful rule in such matters—"Hands off!"

Quotation from a Specialist.

In this connection the words of Sir James Crichton Browne are worth quoting:—"I think our parents, and guardians, and teachers would all be more gentle in their manipulations of the brain if they could realize that it is of the consistency of firm jelly, that it is like a sponge full to the dripping point of blood, that it is made up of a starry firmament of cells arranged in millions of constellations, and of a silvery filigree of fibres beside which the threads of the gossamer are coarse and clumsy cables. I think that parents, and guardians, and teachers would sometimes be less exacting than they are in their demands on the brain, less intolerant of its failures, if they could picture to themselves its functional activity, now shimmering over its surface from point to point like the aurora in the northern sky, now almost vanishing in intervals of slumbrous ease, now flashing forth in moments of passionate emotion, now glowing with a steady light as in tranquil thought, now gathered into a spark of dazzling brightness as in moments of concentrated attention."

There is much food for thought in those eloquent and weighty phrases. They remind us of this fact, among many others, that one-fourth of the whole circulation of the blood is devoted to the nourishment of the brain. If this is so in adult life, the proportion must be still greater in early life, when the relative sizes of the brain and the body render the nutrition of the former a still heavier drain on the total resources of the system. Now, as active thought or attention involves an extra flow of blood through the brain, and an abnormal distention of the blood-vessels, we can easily see how unwise it must be to

prolong this condition beyond the limits of time, or to excite it beyond the limits of degree, which are consistent with the conditions of healthy growth in brain and in body alike.

Importance of a Healthy Brain and Nerves.

There are so many children who either inherit, or in early life acquire, tendencies to abnormal nerve conditions that we should be specially careful in this matter. Our pupils should have every chance that we can give them to build up a strong and healthy nervous system. Since we cannot provide the nourishment in school, we should take the more care to avoid all over-pressure and over-stimulation. Nervous disorders are, in the first instance, no more mental than is an attack of toothache. The brain and the nerves are as purely physical as are the bones and the skin, and as much dependent upon proper nourishment and growth. But the brain and the nerves have a unique connection with mental work, which those who confine their attention to intellectual education are apt to overlook. It is only from a healthy brain that we can obtain good mental results. If, then, in our striving after mental results we injure the physical basis of all mental operations, we are, to use an expressive colloquialism, "cutting off the branch on which we are sitting." The traditional brain-work will come later; meantime the chief business of the brain is to grow.

The Best Brain Exercise.

In all animals the main function of the brain seems to be to exercise through the motor nerves the control and the co-ordination of muscular movements, in response to sense-stimulus received by the sensory nerves. The more complex the muscular system, the more complex is the development of the brain, apart altogether from the intelligence of the animal. It might be of service for us to remember that in this, as in other matters, we also are animals. Thinking may almost be regarded as a "bye-

product" of the brain; movement is its primary business. Even in thought the brain acts in much the same way as it does in controlling muscular movements. A thought is a nascent or a restrained act. If there is want of restraint, or if there is an unusual amount of energy evolved in the brain, the thought becomes an action. The words which in our ordinary states of mind we merely think will often be uttered aloud when we are violently excited, or in delirium, or in disturbed sleep. So it appears that the brain finds its natural activity in physical movement, and that thinking requires a certain amount of constraint or inhibition of the activity which is set up in it. If, therefore, we wish to afford natural exercise to the brain of a pupil, we can do this best by affording him plenty of scope for muscular activity. When he has had enough of this he will stop of his own accord, for natural fatigue will give him the hint that he has reached the proper limit of exercise. And fatigue is not merely a condition of the muscles, but also of the nerves which move those muscles.

The best training for the brain, therefore, at the Infant School stage undoubtedly is plenty of muscular exercise, which is almost equivalent to play. This form of exercise has another advantage, in that it promotes the general health, and aids in nutrition and growth. The usual forms of brain work known in school, on the other hand, restrain natural movements, and tend to lower the general tone of the system. The danger from this cause is, of course, greatest in city schools, where children often suffer not only from want of food but of sleep and fresh air and sunshine as well. All these things make city children specially unfit subjects for our traditional school work, and specially liable to suffer harm from its imposition.

Brain Activity and Precocity.

The greater acuteness of mind often found in city children may seem to point in the opposite direction, and to show that they possess great brain power as compared with

country children. So far is this from being the case in reality that this very precocity is itself an evidence of nerve instability. It is not precocious acuteness but "staying power" which will tell in the long run. If we develop acuteness of the brain at the expense of its due nutrition and that of the body generally, we increase willfully the dangers to the nerve system which our artificial mode of life has already provided in far too great abundance. Our aim in a city school should rather be to counteract those dangers by a mentally quiet and a physically active curriculum.

Physical Restlessness.

Putting together two recognized features of our pupil—his large brain, and the fact that the natural function of the brain is stimulating muscular movements—we find a sufficient explanation of the further fact that one of his most prominent characteristics is his constant *tendency to action*. He is an embodiment of perpetual motion. Even when he tries his best to obey our too frequent order to "sit still," nature gets the better of him, and the result is that inevitable fidgeting which is often regarded as a disease instead of a symptom—the real disease is the state of inaction caused by sitting still, and the fidgeting is nature's warning and her attempted cure. No doubt the power to sit still ought to come through time, but we should be very careful to know exactly how long it is possible for a child at any given age to do so without strain.

If we really wish to cultivate in our pupil the power of sitting still, we shall go to the child to find out how to do it. We shall find that, when he has some quiet occupation which he likes, or something to look at in which he is very much interested, he can sit still enough for a short time. So, when we wish him to sit still we must not depend upon our command for producing that result, but upon the inherent interest of what we give him to do. By interspersing intervals of active work with intervals of looking

at interesting things, or listening to stories, or doing little things with the hands, we can develop the habit of spending periods of quiet activity without fidgeting. And this is a valuable accomplishment, which some grown-up people seem to have missed during their school days.

The tendency to constant activity in the boy not only tells against inaction as a feature of school work, but it also makes active forms of work specially educative. They appeal to the child's nature through the activity involved, and help to mould it as we wish. We shall find examples of this principle all through the curriculum.

Mental Aspects of Physical Activity.

We shall only notice further here that the desire for action colours the child's interests to a very large extent. In selecting pictures for school use, for example, we may observe that those which the children find most interesting are pictures of action. They do not care much for pictures such as portraits, but if we give a boy a picture of some one engaged in any form of action, especially such action as has come within his own experience, or is within his own powers, the picture is at once a source of intense interest. Whether the picture is one of children, or of animals, or of grown-up people—we arrange them thus because this is the natural order of preference for a child—it should represent the subject as *doing* something, if we wish it to be interesting. The same principle applies to the making of pictures. The boy likes to draw his subjects—however badly does not matter—engaged in some action. He would rather try to draw a boy running or jumping than make a copy of a leaf or a flower. And if we wish to have his best attention to aid our instruction, we shall try to follow the line of least resistance in this as in every other matter, however far it may be from the line of tradition.

In stories the same principle holds good. The story of action, or the poem with a dramatic element, or, failing anything better, a reading lesson in the form of dialogue,

which is a form of action, will always be found most interesting, and therefore most educative. There is no feature of our pupil which has more far-reaching effects upon his nature at first than this simple characteristic of predominant activity, and its influence extends to the mental as well as to the physical; indeed, it is always an error to think of the mental apart from the physical, so closely are they connected, and so much do they react upon each other in education.

Early Activity not Co-ordinated.

We have said that in the Infant School period the brain of the pupil reaches almost its full weight. This does not by any means imply that it reaches a state of completeness in its organization. The texture of interconnecting fibres, to which reference has been made in the paragraph quoted above, is still very much undeveloped. It is apparently by means of those fibres that we are able to perform complex actions which imply the movements of many muscles one after another in regular order—such, for example, as writing. Until these interconnecting fibres are established, complex actions cannot be performed with any degree of accuracy. So in early life the *efficiency* of the brain is not at all proportional to its *size*. The young pupil's power to control his movements is not proportional to his activity. Energy rather than accuracy characterizes all that he does. This has a very distinct bearing upon the kind of work which is suited to the Infant School pupil.

It seems to be clearly established that the larger groups of muscles come under the control of the brain or the will earlier than the smaller groups. We find that our pupil has fair command over the muscles of his arms, for example, before he can control those of his fingers. This is a useful fact for us to remember in the Infant School. It shows that the most appropriate work is that which provides plenty of activity, but demands little accuracy. This is the period for activity for its own sake—that is, play;

not for activity which has as its end some other and more distant result—that is, work. And when we try, as we must, to transform some of this spontaneous play-energy into forms of action more directly educative or instructive, but still pleasant because natural, we must follow nature as to the kind of work which we employ. It must at first be such as not to demand any fine adjustment of muscular movements.

Accurate Work therefore impossible.

We need not go far to find examples of work which ought to be avoided in the Infant School, or at least postponed as long as possible. Writing with pen or pencil, kindergarten work which involves accurate movements of small objects, such as stick-laying or pattern-pricking, and learning the little, black, crooked forms of the letters in a book, which involves fine adjustment of the muscles of the eye, are all condemned at the first glance. As for needlework, nothing worse can be imagined.

On the other hand, we may adopt or invent exercises which are entirely suitable and are equally educative from any point of view. Drawing with chalk on a relatively large scale will exercise the arm muscles, and at the same time train the eye to form. Building with fairly large wooden blocks is quite within the pupil's power, and will give all the training which the small stick-laying is designed to afford. Whatever the special form of work chosen, we should make sure that it is well within the powers of the child; otherwise it will not long be found interesting, and will fail to educate.

This may look like advising the teacher to neglect accuracy of work, but it is merely advising her to *postpone* it until it is in season. We must wait till nature has prepared the necessary apparatus for guiding the movements with ease and pleasure; and when that time comes, by all means let us have the most conscientious and minute accuracy of which the boy is capable. Accuracy will then be of value for

moral as well as for physical and intellectual training; but to attempt what is beyond the child's powers will only accustom him to habitual failure, and will make him satisfied with less than is set before him as an ideal. This is bad training in every respect.

We may attain a certain precocious and painful accuracy by dint of practice, but the time would be much better spent on work more in harmony with the pupil's stage of development. A great deal of our school time is wasted in the race after precocity, and some of it is worse than wasted. We spend many dull hours in teaching a child to do at the age of six what he would learn a year or two later with ease and with pleasure; and this mistake of teaching things at the wrong time is not confined to the Infant School, but extends to the higher divisions of the school as well.

Precocity of attainment, as we have said, is not a thing to be desired. The children of inferior races are precocious as compared with those of civilized races, and among the latter precocity is so often the sign of ultimate inferiority, of a mind wanting in balance and staying power, that we ought to avoid in school anything which tends in that direction. Our education should aim at guiding growth in natural lines, and not at forcing on a maturity which must be unstable unless it is preceded by a period of childhood normal in every sense of the term.

Instinctive Forms of Activity.

When we come next to consider the forms which are assumed by the abundant activity of the child, we are brought at once to think of instinct; for the earliest activities of the child are purely instinctive. The subject of children's instincts has received little attention as yet from educationists, and is therefore a subject which it is not easy to discuss with sufficient certainty. We are in need of much more definite knowledge regarding it. Yet the importance of the subject forbids our passing it by in silence.

The Apparatus of Habit.

When we set about learning any complex set of muscular movements, such as those necessary in writing, or in playing the piano, we must guide each movement of the hand consciously by the will or the brain, and the series is very slowly performed. With a little practice the series can be executed more rapidly and with less conscious attention to each movement. At last there comes a time when no conscious attention is required for the elements of the series; the mere fact of our performing the first gives the cue to the next, and the whole series seems to follow spontaneously in the proper order. The movements have become automatic, as we say. It is as if a series of telegraph lines had been erected between the various nerve centres involved in the respective movements, so that each centre can send on the message for action to the next centre, instead of our requiring to send a separate message to each individual centre from the main centre of consciousness in the brain. The probability is that some such physical change does take place among the fibres connecting the nerve centres. This is the machinery by which habits are formed, whether physical or mental; and it is through most of our common actions thus becoming automatic that the brain is set free, so far as conscious action is concerned, to attend to other and newer forms of activity. Were it not for this feature of nerve action, all our time would be taken up by the acts necessary for the preservation of life, such as eating and dressing, and we should be unable to perform those daily actions any better after many thousands of repetitions.

Such is a brief account of the familiar phenomenon of learning to do a thing, or of forming a habit. But we know that many animals perform very complex series of movements and actions which they have never learned in this gradual way; and there are also many series of movements which can be made by young children without learning

them as we have described. The movements connected with feeding, and many others, are performed by the baby of its own accord, without any practice being needed. How does this agree with our account of learning ?

Instinct and Habit Compared.

The brain action is the same, but in the case of those instinctive movements the lines of connection between the centres in the brain are formed in the course of natural growth. The animal inherits not only limbs of the same pattern as those of its ancestors, but also the same pattern of brain to guide their movements. It is provided with brain-paths ready formed for the discharge of its energy in the hereditary manner, and for performing actions which have been part of the race equipment. Those instinctive actions, of course, are mostly concerned with the preservation of life, and they are a uniform possession of the race just because any individuals who did not inherit those powers must have died out through the want of them. So in the case of the child those actions which have a vital reference are performed without education, through the instrumentality of the inherited brain structure. We may therefore picture to ourselves an *instinct* as being an *inherited habit*, and a *habit* as being an *acquired instinct* which is not at first hereditary.

Instinct in Children and in Animals.

When we mention animals and children together in the discussion of instinct, it must occur to us that the child is rather poorly endowed by nature in this matter as compared with all other creatures. He has fewer inherited aptitudes, and requires more aid from others. His brain, large as it is, has few of those ready-made connecting-paths in it, and we might suppose that this implies inferiority.

There are probably two errors which we make when we come to this conclusion. The first is that we usually undervalue the part played by education in the life of young

animals. Recent observers assure us that even wild animals which are not distinguished for intelligence devote a great deal of care to the education of their young, and that many of the acts which we call instinctive are really learned by imitation of the older animals, and often by their direct instruction. Hunting and killing prey, hiding from enemies, obeying the call of the leader, and many other actions, are deliberately taught. The longer the period of immaturity of an animal, the more it needs to be taught. The less highly organized animals have a shorter growth period of youth and training, and are more wholly under the guidance of instinct.

The second error which we make is to underrate the number and the importance of the instincts of the child. And since conscious thought and feeling are an accompaniment of action in man, we must take into account here all the mental instincts as well as the physical, and the emotions in particular. If we do this, we shall find that instinct plays a very large part in the life of the child, and that, instead of being without instincts, he seems at first little more than a bundle of instincts.

Instinct and Education.

Still, after making full allowance for those two errors, it is strictly true that a child is less fully provided with instincts than the young of any of the lower animals, and depends more upon education for his equipment for the struggle of life. As a matter of fact, his want of instincts is a mark of the superiority of his brain structure. Instead of *accomplishments*, nature has endowed him with *possibilities*. In so far as any act is the mere outcome of instinct, it is mechanical, and it is inevitable. There is no opening for education to alter the habit of which it is the outcome. Where instinct gives no guidance, conscious thought must assume the control of actions, and it is then that education becomes possible. It is then also that it becomes necessary.

In the child, because he is endowed with the power of thought and reflection upon his actions, the instincts themselves are possible subjects of training—that is to say, there are many instinctive promptings to action which can be restrained by education or by reflection. The inherited habit may be counteracted by another habit which has been acquired.

The use of instinct in nature is evident. Its aim is the preserving and furthering of the life of the individual or the race. All instinctive acts may be regarded as useful acts. This is true of the instincts of the child. They all lead him to some form of action which is necessary for his development into a complete man. They are not, therefore, to be stifled or starved for want of exercise, and full use should be made of them in education. We have already pointed out that most instincts are not permanent, but appear at certain times, and, after a period of activity, fade away or give place to others, which also have a work to do in the building up of the completed man.

The Instinct of Curiosity.

The earliest instincts of the child find their time of activity in early infancy, long before he is subject to our guidance. At the time when he arrives at our gates, one of his most active instincts is Curiosity. This instinct, like all others in their turn, must be considered by us in our school work, and that for two reasons. In the first place, the instinct is part of the character which we have to mould and develop, and in the second place it is one of the means by which the whole character may be moulded. So the instinct of curiosity may be considered in two most important aspects—both as material for and as means of education.

Looking and Handling.

The curiosity of our pupil has found much scope for its exercise in the home. He has been keenly alert in gathering up scraps of knowledge, mainly by means of his hand and

his eye. We mention the two instruments in this order because the child himself finds it to be their order of usefulness. He is never satisfied with merely looking at an object if it is within reach of his hand. In his earlier years his mouth formed one of his best instruments of discovery, but he has gradually found that the mouth is better adapted to the reception of food for the body than of that for the mind. But the hand is still his best instrument for the exploration of the world, and it should remain so. Even in our adult life the hand itches to do its natural work in giving us knowledge, and in museums and such places the frequent legend "Do not touch!" is sufficient evidence of the universality of the tendency.

This instinct for handling things is a hint to us in school method. We must never assume that a boy has satisfactorily examined an object unless he has had an opportunity to handle it at his leisure. "Do not touch!" is not an educational maxim, however necessary it may be for the preservation of rare specimens in a museum. The contrary maxim should be in daily use in the school—"Take this in your hands and examine it thoroughly."

Touch and sight are the child's instruments of self-instruction, and they should therefore be the teacher's chief means of instruction. The ear is of secondary importance to the child, but the tendency in school is to make it the most important of all the senses. This is a mistake, and we should do well to follow the lead of the child's natural instincts in his instruction.

"Why?"

The chief use which the young pupil makes of the ear is to catch our answers to his perpetual question "Why?" Before he comes to school there is no question so often on his lips as this; and it is a good question for him to ask in school also. We must find room for it. It is not the teacher's "Why?" but that of the pupil which tells for education. For the satisfaction of curiosity two questions

are natural, "What?" and "Why?" The answer to the former the pupil likes to find for himself by means of his hands and his eyes; for the answer to the second he is dependent on the teacher, as he was on the parent before he came to school.

The Use of Natural Curiosity.

The encouragement of this natural curiosity is one of the duties of the teacher. It is at once, as we have said, an end and a means of education. Yet it frequently disappears after the boy comes to school. He ceases to ask "Why?" And this anti-educative result is sometimes due to the school itself. When the boy comes to the upper school his teacher would be very glad if he would only show a little more curiosity about the subjects of instruction; but the instinct, when once stifled or starved, is difficult to resuscitate.

We may note two causes which are likely to check the frequency of the pupil's "Why?" He may cease to ask this question of his teacher because he is not sufficiently at home with her; he is shy or afraid, or for some reason he lacks confidence in her. To mention this danger is at the same time to suggest a cure for it, and this cure lies within every teacher's power. Again, the pupil may not ask "Why?" because the teacher *tells* him why before he has felt the need of asking. His natural curiosity is thereby cheated of its exercise, and declines in activity. The "reason why" should be given as food is given—only on the demand of appetite; if given otherwise, satiety or indigestion is the sure result. The pupil must be accustomed to ask "Why?" when he wishes to know, and he must not be told "why" until he has felt the desire to know.

The Meaning of the Pupil's "Why?"

We must, of course, premise that it is only a child's "Why?" that we are dealing with here. It differs entirely from the "Why?" of the adult thinker or the philosopher.

The ultimate "Why?" of anything is a question for ever impossible to answer, for its answer implies the ultimate meaning of the universe. The child's desire is merely to trace some connection between the various scraps of knowledge which he has picked up in haphazard fashion by hand and eye. To answer this "Why?"—which is really equal to "How?"—the teacher need not be a profound scientist or philosopher. A somewhat superficial "Because" is all that is needed, if only it is true as far as it goes; indeed, any more profound "Because" would be unintelligible to the child, and could not, therefore, convey any truth to him. He is on the lookout only for such relationships as his previous experience has led him to understand, and anything deeper than that must come very gradually. It is facts in their obvious connections which he wants, and not general laws. And these facts, judiciously given, form the appropriate food for his mind at its present stage.

Very often a child will ask a "Why?" to which the only possible answer is, "I don't know." When necessary, the teacher should give this answer quite frankly. It will entail no loss of dignity or prestige in the pupil's opinion, and it may even help to establish a bond of sympathy. In any case, the more seriously and sympathetically the pupil's questions are treated by the teacher, the more likely is it that *her* questions will meet with the desired reception by the pupil when it is necessary for her to assume the rôle of questioner.

"Find Out."

There is one obvious case in which the pupil's "Why?" should not be met with the teacher's "Because," and that is when the pupil is able easily to "find out" the answer to his own question. The educative value of an answer discovered by the questioner himself is enormously greater than that of any answer supplied by another, both from the more effective impression made on the mind by the fact discovered, and from the mental habit of in-

dependence fostered. Scientific training, and indeed all intellectual training, may be said to have as its object just this power of finding answers to the questions which nature proposes to all thoughtful observers. A discovery thus made, however well known previously to the world, or however unimportant to the world, is of the highest value to the young discoverer. He has not merely learned a new fact about the world; he has added to the sum of his own mental and moral powers. He is learning *how to learn*, and this is all that the school can hope to teach even its most advanced pupils.

At the Infant School stage, however, interest is fleeting and easily distracted, and the patience and concentration necessary for the exercise of this self-education has not yet been developed. The pupil would often choose to leave his question unanswered rather than try to puzzle out the answer for himself. It may sometimes be necessary for us to insist on his trying to find it out; or again it may be wise for us to give him the information desired, rather than let his interest fade from the subject without his original curiosity being satisfied. There is a bad moral effect in letting a question once started pass without an answer, whether the failure to find one is due to laziness or to the natural difficulty of the subject. It leads to want of serious concentration, and encourages a dilettante habit of mind. The teacher's experience and her knowledge of the individual pupil is the only guide as to what is best in each case. The value of independent discovery must be kept in view, but there are other principles which must not be lost sight of.

The Instinct of Imitation.

The instinct of Imitation, as we have already said, is also very strong at the Infant School stage. The young pupil seems largely compounded of monkey and parrot—the former in his actions, the latter in his words. In virtue of this instinct, every one whom the child sees becomes

his teacher. It does not always tell for the kind of education which we desire. The evil as well as the good tends to be reproduced by the imitative child.

The scope of imitation in school is found, perhaps, more in the sphere of conduct than of instruction; and as we regard conduct rather than knowledge as the end of education, the importance of reckoning with this instinct is easily seen. By its means the teacher educates apart from any formal teaching. Her own conduct and manners have an influence greater than she may be aware of. Such characteristics as gentleness, earnestness, neatness and order, politeness, and all the minor moralities of daily life, are commonly learned, if learned at all, by virtue of example rather than of precept. True, the teacher is not the only model; there are many others—companions at school, relatives at home, and others whose example may not always be of such a nature as to aid the formation of character. Yet the teacher's position gives her example a unique force, especially if she is on desirable terms with her pupils.

Unconscious Imitation.

The teacher may be certain, however, that the example which she *presents* is not always that which she *intends* to give. It is what the children *see* in her that influences them, and what they see depends as much upon their power of seeing as upon what there is for them to see. It is safe to assume that children will imitate their elders in unimportant things and in things of which these are unconscious, more readily than they will imitate the aspects which are held up for their example. Little tricks of speech and of manner, and sometimes of dress, will appeal to the child more than the weightier matters of the law.

We must also take account of this fact, that imitation is often unconscious. A child will learn a habit, good or bad, without intending to do so, and without being conscious of imitating the person from whom the habit is learned. Anything which strikes the attention will exert

a power for imitation. In this way, for example, stammering has sometimes become epidemic among the companions of a stammerer.

The Use of Imitation in Language Teaching.

Imitation has also a distinct value in direct instruction, notably in the teaching of the mother tongue, which is the most important subject of the Infant School. Language is an imitative art, and the fact that imitation is at its strongest during the Infant School period points to the acquisition of language being specially in season at that time.

When we mention language in this connection, we must think of it as it really is—a system of *sounds* to express our meaning. Written language, as we employ it, is merely an attempt to represent those sounds by visible symbols, and the learning of these symbols involves work of a kind which is extremely unsuitable for young children. It is language in its primary form, as spoken and oral, which is the study most appropriate to the Infant School. This is not only the most educative kind of work possible at the time, but is also a form of work in which the imitative instinct of the child finds a useful exercise at a time when that instinct is stronger than it will ever be again.

It may often be noticed that when a family has occasion to remove from one district to another where a different dialect or a different accent prevails, the young children—those of the Infant School age or near it—are the first to acquire the local dialect or accent, and they readily learn then tricks of speech and expression which may persist throughout life. Older children, who are in precisely the same circumstances, and have the same opportunities for acquiring the local peculiarities, are not so readily or so deeply affected. The speech which they learned during their own Infant School period persists, because their imitative instinct is now weaker, and also, no doubt, because their vocal organs have already acquired a “set,” and are less susceptible to change.

The Formation of Correct Speech.

What we know of the child's instincts justifies us in saying that one of the most important functions of the Infant School is to develop *correct speech* in the pupil, and that the best means of doing so is abundant listening and abundant speaking. In these exercises it is the example of the teacher which educates. If practice in hearing and in speaking is sufficiently abundant, the tone and accent of the child will gradually assimilate itself to that of the teacher.

Children do not have enough opportunity for speaking in class. In the playground they are sufficiently fluent, and they copy one another's errors of speech by frequent repetition. In school the amount of speaking which falls to the share of each child is often very small indeed, and quite insufficient to form a correct style in the face of the provincial style in which ninety-nine per cent. of their speaking is done.

There is no part of the formal training of the Infant School which can at all compare with this in importance so far as regards the saving of time in later years. Reading, writing, spelling, and the rest can wait, and will be all the better for waiting. Correct speech, both of words and of sentences, must be formed now if it is ever to be formed well, or to be formed without a great deal of unnecessary trouble. Learned *as* it ought to be—by imitation—and *when* it ought to be—in the Infant School—it becomes a part of the child, and that without conscious thought on his part as to right and wrong in speech. Left till later years, and learned by rules, it is both artificial and superficial, and this remains a handicap on educational progress. The boy is forced to attend to the form of his speech, oral or written, at a time when all his powers should be free to attend to the matter.

This is an example of what is sometimes overlooked—that to base a child's education upon what we know of

his nature does not by any means involve putting off all formal education and spending the early years in mere play. In the case of language teaching, at least, we see that the nature of the child would suggest its beginning much earlier than is usual. The too common practice is to put off the teaching of correct language till the boy can study grammar and write what is called "composition." There is no good reason for restricting the term "composition" to the construction of written sentences. If we extend its meaning to include spoken sentences, we shall find that the very best time for composition is the years which are usually spent in the Infant School.

Limits to be Noted.

While the imitative instinct gives us direct aid in teaching language by practice, it gives us no help in the study of words either in their grammatical functions or in their written symbols, and we must not confuse these aspects of language with its primary use as the instrument of communication between one person and another. We should also note that, as we are to rely upon imitation, our teaching must be *positive* and not negative—that is to say, we must practise the child in what it is proper that he should do, and not trouble him about what he should *not* do. Still less must we trouble him with explanations as to *why* certain things are right. Rules acquire a meaning only through reflection upon action, and action must always come before reflection. Despite the proverbial counsel, this is a world in which we must always "leap before we look!" The only way to counteract a bad habit of speech is to give practice in imitating the correct form which we design to take its place. Example, and then practice, and then more practice still—these are the teacher's most effective methods. The reason why will come later. The pupil must speak as the teacher speaks until that becomes the easiest way for him to speak. If, however, the teacher does not speak correctly—we need not finish the sentence!

Imitation as revealing Interests.

We have spoken of imitation as a means by which the child learns from the teacher ; it is also a means by which the teacher may learn from the child. It is the best revelation of the child's *interests*. In his free play, when he may imitate without restraint whatever he likes, it will pay the teacher to observe what he chooses to imitate. That which he selects to imitate when at play is likely to be that which will have most interest for him when mentioned during the course of his lessons. One can always learn a child's interests best by observation, not by asking questions ; and to know a boy's interests is to have a key to his attention and his co-operation in work.

Imagination.

One of the most prominent characteristics of the Infant School pupil is the activity of his Imagination. To understand how to make use of this is to possess another valuable key to school practice. It is important to know how the imagination of a child works, and to appreciate the difference between that of a child and that of a grown-up person.

Characteristics of Imagination in Childhood.

We need not here discuss Imagination psychologically—for that the reader may consult any good text-book of psychology. The special marks of imagination in childhood are all that we need consider. The first mark which we shall mention is that early imagination, like all early thinking, is not connected and logical, but pictorial and somewhat haphazard. The child's mental imagery reflects his bodily activity in being ever on the move, led by the chance of the moment and not guided by conscious effort. There is little plan or purpose, but a constant change for the sake of change. Again, there is a want of that experience of the real world which leads the adult mind to reject some images as impossible or absurd, and to dwell on others

which have some relation to the realities of the universe. To the child all things are possible. Further, in his thinking, as well as in his actions, the child is fond of experimenting. He puts his toys and other things into positions and combinations for which they were never intended, and he does the same with his mental possessions. Hence often the grotesque combinations of a child's mental pictures. The last characteristic which we shall mention is that, as the whole mental furniture of the child is somewhat limited, and as he does all his thinking without much material, comparatively speaking, so his imagination has less need of details than that of the adult. The very slight foundation on which a child will build up a whole series of castles in the air is apt to surprise one who does not take this fact into consideration. The general bearing of all this is that the imagination of the child is of a different type from that of the adult, and this fact must be kept in mind by the teacher who would make the best use of imagination.

Imagination demands little Material.

The skilled kindergarten teacher, as a rule, gives full scope for the peculiarities of the child's imagination in the innumerable uses to which she will put a few ordinary wooden building blocks. They are now the steps of an ordinary staircase; by a slight change in position they become a royal throne; and so on the teacher goes giving constant exercise to that desire for change which is so strong in her young pupils. Grown-up people who are not in touch with childhood cannot understand this. They see in all such play only mere childishness. They have forgotten their own childhood, if they ever had any, and they seem to think that the word "childish" carries reprobation with it even when applied to the period of childhood itself. But the type of thought and imagination which children possess is really childish, and it will continue to be so in each succeeding generation of children, however old we may grow in the meantime.

Not only is it true that the child's imagination works perfectly well with the slenderest material, but an excess of material is a positive hindrance to imagination. The too perfect toy is not good for a child. Its numerous facts demand attention for themselves, and the imagination has no room to work. A perfect model may be a very good subject for teaching the child a lesson, but it is of no use as a stimulus to the imagination until it is so familiar that its details are forgotten, and then it will often be used to represent something quite different from what it was intended to represent. The reception of new ideas is a different mental process from the exercise of fancy, and the one interferes with the other. Hence the preference shown by most imaginative children for the rag doll, the ninepin soldier, or the walking-stick charger. In this particular the children of the relatively poor are by no means to be pitied when compared with those of the unnecessarily rich.

While the materials demanded by the imagination are simple, as should also be the toys at home and at school—a school intended for infants must contain toys—these should never be positively ugly or grotesque. Nothing in education can ever be considered from one point of view alone, and we must take account of the influence which his play material will have in tending to form the taste and even to bias the conduct of the pupil. The child, as a complete personality, is modified unconsciously by all his surroundings. We have to train persons, not faculties.

Value of the Story.

The most nourishing diet for our pupil's imagination is the Story. The peculiarities of the child's imagination are well seen in the kind of story which he prefers. It need not have any resemblance to anything which has ever happened, or could happen. Its ethics may be of so crude a type that the adult mind would find it hard to admire it. Moreover, the story may be repeated a score of times

without a trace of weariness being seen in the hearer. But teachers would do well to note this—that the tale must be repeated in the same words. To the adult it might seem preferable to have some variation in words or in phrase ; not so to the child. In action and in thought alike he enjoys an amount of mere repetition which is positively a weariness to the adult.

Fairy Tales.

The story *par excellence* for the young child is the Fairy Tale. By-and-by the hero will be preferred—the hero in sacred or secular history, the hero in fiction which is a reflection of real life, and the hero of adventure and of noble deeds ; but that time is not yet. In the selection of tales for school use the teacher will find some useful hints in the theory of Recapitulation as propounded by writers of the Herbartian school. This assumes that the individual child passes through the same stages of imperfect culture as the race has passed through on its way to the highest civilization, and that his interests in early youth are very much the same as were those of the primitive peoples who invented our Folk Stories and our Fairy Tales. This theory, whatever be its degree of correspondence with historical fact, is of undoubted service in suggesting literary material for school use at the different stages of a child's progress. The teacher who studies children at first hand will reach pretty much the same conclusions as the Recapitulation theory affords, and she need not trouble herself about any speculative basis when she finds the basis of observed facts sufficient for her guidance.

The Fairy World natural to Children.

Whatever may be the explanation of the fact, the fact itself is at least clear enough that there is no better story for the Infant School than the fairy tale. Its impossibilities and wild, fanciful exaggerations are quite in accordance with the child's own habits of thought. The supernatural beings are taken quite as a matter of course

by those to whom the whole world is as yet full of mystery and boundless possibilities. That animals and even inanimate things should talk is not only pleasant, but is in strict accordance with what *ought* to be the laws of nature, in the opinion of those who are themselves in the habit of actually speaking to pet animals, and to dolls and other playthings. By-and-by the boy will realize that these things do not speak to him in return, and that he would be very much afraid if they did; but that prosaic stage has not come yet. His imagination of what they might say to him is in the meantime so strong that he does not miss the reality. In the fairy world he finds that things behave just as he would like them to do in his own world.

The Fairy World as merely Ideal.

There comes a time, sooner with some children than with others, when it is realized that the fairies and the world generally do *not* behave in the way that the tales represent. Then the fairy world becomes merely an ideal world, but just the kind of ideal world which suits the young pupil, and is most in harmony with his emotions. The more prosaic adult reader enjoys a story of romance none the less for his knowledge that things are sadly different in the actual world. The ideal world is a welcome relief from reality, and the reader is all the better for following some noble guide into a region where men are of a finer mould than those he meets day by day; his mental and moral life may be stimulated by this contact with what is merely ideal. There is a possibility of much education in the ideal, even to the best and wisest, and our children should not be debarred from this influence through any feeling on our part that the real is somehow better than any ideal.

The fairy world is one which is peculiarly suited to young children for their excursions into the ideal. Our pupil probably understands the motives of the fairy folk and of the long-ago earthly folk who figure with them in the fairy tales much better than he understands the motives of the

real people around him; and the motives which he understands are, of course, the most educative to him. Those motives are all simple, broad, and elementary. There is no subtlety or complexity in the genuine fairy or folk story. The characters are simply good or bad; there are no puzzling half-tones in the picture, but only high lights and deep shadows. That a noble or kind youth should marry a princess and receive a houseful of gold and jewels seems quite right and proper. There is nothing improbable about it, more especially as the child's conceptions of a princess or a houseful of gold are by no means critically accurate. That the villain should have his head cut off is not painful to learn; it merely evokes a feeling of "served him right," and the deserved punishment is not realized in any disagreeable detail.

Yet in this last particular there are differences among children which should be kept in mind by those who have classes to teach. There are some children who cannot enjoy any story with a tragic element; and as the strength of a chain is only that of its weakest link, so the test of what our class can enjoy is the measure of what can be realized without pain by the most sensitive pupils in the class. This brings us directly in view of the emotional nature of our young pupils, a question which has not yet received adequate attention in educational writings.

The Emotions of Childhood.

The emotional nature of the child does not come much before the teacher, except in abnormal cases. Its bearing on school work is chiefly indirect; but that indirect bearing is more important than we often realize. When our work appeals to the child's emotions, we see that it proceeds easily and rapidly, and we may not trouble ourselves to analyze the reasons for our success. It is only when we feel his emotions as a contrary force that we really notice them, and then usually without much knowledge as to how the difficulties arise and how they are to be avoided.

The normal emotional tone of a healthy child is bright and joyous, and so long as we can preserve this tone we need not try to analyze it further, unless we are of a scientific turn of mind. On the negative side, the emotions which we are most likely to notice in children are those of Fear and Anger. It is with respect to such emotions that children differ from one another more than in any other aspect of their nature. Some children, for example, seem scarcely to know what fear is; others seem to find themselves perpetually in a world of hostile influences which are too strong for them. Anger is easily excited in some; in others its manifestation is extremely rare.

Children's Fears.

In the case of many children, whether generally timid or not, there is some one object or state which is their *bête noire*, and which often causes a terror too great to be overcome by any effort of reason. The puzzling thing about this matter is that a child may have his little life burdened by some great terror, and those about him may never dream of the real state of the case. The cause of his fear may be a wholly imaginary thing, or, if it be real, it may be wholly harmless, but he regards it as too dreadful even to mention. He forgets its existence, probably, during most of the time, but his periods of fear are apt to recur more or less frequently. If he could bring himself to speak of it, his fear would in all probability be easily removed by some one older than himself; but he cannot speak of it. Only in adult life can we speak freely of our childish fears, and many can recall some shadow of terror which darkened no small part of their childhood unknown even to those whom they trusted most. The subject of the fears of children is that which has received most attention among the emotions of childhood, and a considerable amount of light has been thrown upon it by what grown-up people have been able to recall of their own childhood. This is a form of self-examination which may bring much reward to the teacher.

How to treat Fear.

The emotion of fear is so universal that the teacher ought to take some account of it in her work. She cannot find out anything reliable by questioning her pupils about what they are afraid of. Wherever there is genuine fear there is great reluctance to speak of it. She must first learn what has been already discovered about the more common causes of fear in childhood, and she may then safely assume that many of her own children have the same or very similar fears. Whenever one of those common objects of terror, such as "the dark," comes up in the course of a lesson or story, it would be wise for her, without any personal reference or direct giving of advice, to say such things about its harmlessness and naturalness as will inform the reason of her pupils. At one time or other those words may come back to a timid pupil when they are needed, and his reason may thus help him to gain a victory over his emotion.

It is absurd, and it may be dangerous, to attempt to "cure" a child of such a fear. As it is not founded upon reason, so it cannot be removed by reasoning. But reasoning is one of the factors which will help the child himself to overcome his own fears as he grows older and stronger, or to form a contrary habit of action [which will react upon the habit of thought. Fear is really one of our earliest instincts, which may be blended in the most varying degree with other instincts; but like everything instinctive it is rooted in our physical constitution, and will not disappear at the bidding of our own or of another's reason. Gradual training is the only specific, and if we cannot help our pupil to this training in school, he will have it all to do for himself later on as best he may.

Where a child openly shows or confesses fear of something which is either harmless or ought not to be feared, direct teaching and training are possible. Fear of insects or small animals can usually be overcome by these means, but not always; there are cases in which this fear takes the form

of a physical instinct entirely beyond the reach of reasoning or of habit to eradicate.

Not to be used as a Motive.

There is extreme danger in deliberately appealing to fear in order to influence a child's conduct. It is too strong and too uncontrollable a force to be safely evoked for such a purpose; it is too near akin to insanity and mental collapse. Fear is an emotion which has no element of stimulus in it; the whole activity of the child, both physical and mental, is checked or suspended. The vague terror of something awful to happen in the future is not permissible to use as a motive to obedience. Every one who has to deal with children—parents, nurses, and teachers—should understand the risks they incur by exciting fear in a young child, either carelessly or of set purpose.

Anger in Children.

Anger is another natural form of emotion which appears as an instinct in very young pupils. In many cases it is so violent in its occurrence as to imply a want of normal balance in the child. Sometimes this feature persists till school age, and forms a serious problem for the teacher. In most cases, however, the general influence of the school, which makes almost too strongly for self-restraint, is sufficient to prevent a child who is passionate at home from manifesting the same violence of anger at school. And when such a case does occur, it is more frequently in the playground than in the classroom.

The teacher should regard this as a phenomenon more physical than mental, comparable to an attack of hysterics in an older subject. Violent remedies are to be avoided. Until the excitement has somewhat evaporated, the child is *non compos mentis*, and no effort at amendment is of any use. By gentle restraint if necessary, but by gentle treatment at any rate, the child will soon cool down so far as to be able to control himself, and he will then usually be

amenable to the ordinary school discipline, with perhaps unusual tractability. For the avoiding of a recurrence of the malady, prevention is necessary, and the teacher will try to keep such a child out of any position where he would be likely to lose control of himself, until the habit of control has been somewhat developed. In all cases where we see abnormal or irregular mental action, we should remember that whatever tends to strengthen the nerve system generally will be of permanent service.

Moral Character in Childhood.

The consideration of this feature of child nature will naturally suggest the question of the moral character of our pupil. This might be dismissed with the statement, perfectly true in a sense, that the young child has no moral character—that is to say, he is neither good nor bad, in the full meaning of these words. He is not an angel when he looks most like one, nor is he a demon when he is most active in playing the part of one. His conduct is no more good or evil than that of our pet dog would be, and for the same reason, that it is not the outcome of deliberate choice, and does not come under the rule of moral law or conscience. In early life the child's actions are only what Professor Sully well calls "the raw material of morality."

This does not mean, of course, that it is a matter of indifference what the child does, or that all his acts are to be tolerated and encouraged. Even in the training of an animal, though we do not award it any moral praise or blame, there are some actions which we encourage and others which we discourage, on account of the habits which are being formed, and we can do no less in the training of a child. The habits of the child cannot be termed right or wrong as yet, but they are elements which will acquire a moral character, and the type of habit formed now will have much influence in the later development of character. He may be inclined to form now, under the influence of some quite natural impulse, habits which will make right

action in the future very difficult even when he knows the right, or wrong actions hard to avoid even when he knows the wrong. On the other hand, he may be led now to form habits which will fall easily and naturally into the scope of a life ruled by the law of duty, though such a law is yet far beyond his comprehension.

“Right” and “Wrong;” “Good” and “Bad.”

A young child cannot appreciate the meaning of the words “right” and “wrong,” and we need not feel shocked when he fails to show the horror that we expect when we describe his acts as “wrong.” Nor does the word “right” appear to him strongly. If he shows a precocious sensitiveness to such terms, he is probably doing so only through our example, or it may be because he sees that we expect him to be impressed. As a practical fact, the teacher’s order is the motive which is most easily understood in the Infant School, and there is little to be gained by going behind this. The pupil will come by-and-by to see that there is something more universal than this, and that the teacher does not make the laws of conduct, but only administers them; the teacher and the pupil alike are under the sway of the same law in their different spheres. But this is far beyond the Infant School stage.

“Good” and “bad” have a great variety of meanings which may be arranged in an ascending scale for the growing child. A baby is called good when he takes his food well, sleeps when he is wanted to sleep, and does not cry more than he feels to be absolutely necessary. A little later the child is called good when he plays quietly and does not worry his elders too much, and submits to all the necessary restrictions on his freedom which cleanliness and the other discomforts of civilized life bring upon him. At school this view is slightly widened. He is good when he conforms to all the conventions of school life, and works with all his little heart at the uninviting tasks which he is expected to perform. From all this he comes to feel

that goodness means conformity to the established order, at home or in school, and he *knows* that he is bad, whether he *feels* it very much or not, when he is at war with that order. To the child the moral law is necessarily from without; and unless he feels the influence and also the ultimate reasonableness and goodness of such an external law of conduct, it is very doubtful whether he will ever realize a moral law within himself. That is to say, submission to reasonable control is the easiest way to reach self-control.

Conscience.

Conscience is non-existent in the normal child. No attempt should be made to develop a conscience too early. Even among civilized peoples the idea of conscience did not arise till late in the history of the world, and it would be absurd to expect such a phenomenon in a young child. "Moral suasion" is useless with young children. The teacher must undertake the task of administering moral law for the young, and need not appeal to any other authority than her own. At the same time she must keep in view the potential morality of her pupils, and realize that this is merely a passing stage in their development; and she must further realize that it will depend much on her own conduct whether the budding moral sentiments and the growing power of self-control in her pupils will gradually develop to play the part which they ought to do one day in their moral life.

CHAPTER VI.

THE TRAINING—PHYSICAL.

AFTER the preceding attempt to sum up the main facts regarding the nature of the subject of our training—the child—we have next to consider what should be the nature of the training which he is to receive.

His *physical health* must be the first object of our care; and that care must not only have a passive or permissive aspect, but must also include active efforts to promote and maintain health. That is to say, we must place the child in healthful surroundings, and we must also do what we can to promote his physical well-being by our training.

The School Building.

The school building itself therefore must first come under our review. The structural arrangements are not usually under the teacher's control. The planning of these is done not by her but for her, and we need not therefore discuss here the principles which should guide the selection of the site and the structure of the building in its various parts, and their relations to one another, with a view to the special purposes for which it is designed, and the special needs of those whom it is to accommodate.

The teacher should, nevertheless, have a considerable knowledge of those principles, and for this end she ought to study some good manual dealing with the hygiene of school buildings. The reason for this is a very practical

one. It is not in order that she may be able to design a school without faults, but simply that she may be able to counteract in some measure the faults of the building in which her work is to be done. We are safe in assuming that no school is hygienically perfect, and certainly there are many which are very imperfect indeed. This is not always due to ignorance of the principles of school architecture on the part of the builder, but to circumstances which prevented his carrying out those principles—such as difficulty in finding a suitable site, or want of funds or of intelligence on the part of those for whom the school was built.

Every specific defect in the hygienic aspects of the school implies a specific danger to the health, or the comfort—which is almost the same thing—of the children, and the teacher's knowledge of the existence of those defects and their dangers will alone enable her to remedy or guard against them. There are many defects which are by no means serious if only they are known, and many whose bad effects can be averted merely at the cost of a little trouble.

Ventilation.

The chief points to which attention needs to be directed are the ventilation, the heating, and the lighting of the rooms. In many new schools there is some mechanical provision for ventilation, but there is none so perfect that it does not need the personal attention of the teacher. The weather has much to do with the completeness of the ventilation under any system, and that is sufficiently capricious in our country to render a little thought as well as mechanism necessary in solving the problem of ventilation. Many rooms require the renewal of the air at very short intervals indeed in order to keep them in a proper state. In large towns even the air out of doors is imperfect from the hygienic point of view; but the air out of doors is the best that is to be obtained, and nothing short of that standard should be aimed at.

This will often imply the opening of the windows to their full extent at frequent intervals; and the teacher must therefore provide pauses in the work, during which the children have a short run in the playground if the weather permits, or a few minutes' active physical exercise indoors.

Every teacher has enough knowledge of physiology to appreciate the need for fresh air as regards general health, but she must also remember that fresh air is a factor which greatly affects the capacity for study or attention. Nothing is more hostile to a wide-awake attitude of mind than impure air. Hence the question of ventilation has a double significance in education. It fosters the physical growth and health without which school education is of little value, and it tells still more immediately on intellectual work.

Lighting.

The lighting of schools is often defective, either as to its amount or its distribution, or both. The reasonable demand is that there should be no seat in the room where the light is not at all times of the working day sufficient to enable the young child to do the work required without any strain or effort. Here again the weather makes large differences. There are days when the teacher must reckon with gloomy skies. Where there is a supply of electric light artificial light can be supplied without any danger to ventilation; but where gas is used, the latter must not be forgotten in attending to the former.

Bad distribution of light, such as cross lights, may be somewhat overcome by the use of window blinds at certain times of the day. Bad distribution of artificial light is usually easier to meet, by the alteration of the lights provided, and adding to their number where required.

As to what constitutes sufficient light, one cannot lay down any absolute rule, but the teacher may take it for reasonably certain that a pupil always requires more light to do any work than the teacher herself would find neces-

sary, both on account of the eye being more susceptible to injury by strain, and of the work being unfamiliar, and so demanding close visual effort.

Heating.

Imperfect heating may also be made more tolerable by the teacher's care. If an open fire be the means of heating the room, the size of the fire or the quantity of coals consumed is not the test, but the temperature of the room; and by this we mean the temperature of the most unfavourably placed seat in the room. On their coming in from the outer air in severe weather, it is often an advantage to give the children a few minutes of vigorous physical exercise; but the teacher must remember that such exercise is beneficial only within definite limits. It may be desirable that children should retain their warm outer wraps for some time, provided these are not damp. With sufficiently warm clothing, one is liable to no injury from the cold air at ordinary temperatures, as is seen in the case of patients under the "open air treatment."

Warmth is necessary to the best development of every young animal. A farmer knows that cold is as certain a check to the growth of his young stock as insufficient food. Heating always involves waste or expense of some kind, whether waste of fuel, or waste of food, or waste of tissue. In the case of school children the waste of fuel costs least in the long run.

In cold, too, the teacher will find a sure enemy to the best intellectual work. Brain and nerve tissue are affected by it. The numbness which overtakes the fingers of a child on a cold morning, and mars his hand-work, is not more real but only more evident in its results than the numbness which affects the whole of his nerve system, and makes his head-work as imperfect as his hand-work.

Purists in the matter of ventilation sometimes make a mistake as regards heating. A room need not be cold in order to be well ventilated. Warm air may be pure, and

cold air may be very impure. The two qualities of purity or proportion of components, and temperature, have no connection. Each separately must be the subject of attention.

Working Limits of Temperature.

The other side of the heating problem—that of keeping down the temperature—does not much affect our schools, though in city schools there are days in summer when this becomes a difficulty. In countries where the summer temperature is considerably higher than in our own, this aspect of the heating problem has a considerable importance. In some American towns there is a rule that whenever the temperature rises above a certain definite limit, all school work must cease. We should be the better of a recognized temperature limit also in many of our schools, but this should be a minimum and not a maximum limit.

There is one advantage which accrues to the school where heat must be provided against as well as cold. The schoolrooms, passages, and other parts of the building are usually much more spacious, and the classrooms are less crowded. This is a necessary feature during hot weather, and it ensures easier ventilation all the year round. The limit of number for which a classroom is sanctioned in this country is by far too high either for easy ventilation, or for comfortable working in many of the school subjects. Our rooms are usually too crowded for anything but listening to the teacher. This was the common ideal of learning when our school building regulations were framed; and when once we have regulations actually framed, we are very slow to alter them. It is so much easier to leave them alone, even if they are a little out of date; and in this case it is very much cheaper too, which settles the matter. We may advance a little now and then—from eight square feet to ten, for example, in the matter of floor space. For Infant Schools we need a much higher ideal in the way of accommodation—rooms that are not only roomy but spacious, almost as good as out of doors.

So much, in brief, for the classrooms—a subject concerning which much more might be said, but which must be left to special text-books dealing with the matter.

Arrival of the Pupils.

With the arrival of her class in the morning comes the more personal daily responsibility for the teacher. The children have, let us hope, already had sufficient breakfast to warrant us in asking them to face a normal morning's work. In many schools, as we have said, this is an assumption which cannot be safely made, and the poverty or the carelessness of parents may lay upon the teacher the duty of trying to help the little ones in this particular, by co-operating with or directing charitable efforts on their behalf. We do not enlarge further upon this matter, but only remark that the teacher is presumed to be in a position to *know* which of her children, if any, are unable, from the want of nourishment, to do the ordinary class work with advantage. And along with the supply of food we may also mention that of clothing, in places where such aid is required.

The Cloakroom.

First in the daily routine the question of clothing again comes up. Hats and caps, and sometimes cloaks or overcoats, have to be removed and put away till they are needed. For this a cloakroom is necessary, and this room, in the case of very young children, needs some supervision. The height of the pegs should be such that each child can reach easily his own proper peg. The space between the pegs should be such that the outer wraps may hang *without touching* one another. This rule is rarely observed in the arrangement of our cloakrooms, but it is desirable everywhere, and most of all in schools where cleanliness is most difficult to maintain. A cloakroom where reeking wet cloaks and coats are left to hang in contact forms a very active exchange for all sorts of microbes between the families represented in the school.

The cloakroom should be not only freely but vigorously ventilated, and in wet weather it should be provided with a current of heated air for the drying of wet garments, so that they may be donned in comfort when school is over.

Wet Shoes.

Wet weather suggests the mention of shoes. The proper arrangement is, of course, for each pupil to have a pair of shoes for use in school only, to be put on in place of the walking shoes or boots which are worn in the street. In the meantime this arrangement is found only in schools of a special type, and not in the ordinary public elementary schools, where it is most needed. Some day we shall come to regard the provision of school shoes or sandals as a part of the necessary school equipment. In many cases it will be possible to obtain co-operation from the home in this matter, and to secure at least rubber over-shoes for the young children in wet days; and then help will be needed for the removal of these in the cloakroom.

In any case, the teacher must take account of wet shoes, and every possible care must be used to prevent any child sitting during the whole forenoon with feet damp and cold. How far each teacher can attend to this, and by what means, is a matter for personal consideration; but every one should recognize the danger which may result from the want of proper arrangements in school as regards footwear.

The Standard of Comfort in School.

The standard of comfort in our schools requires to be considerably raised. In our homes the standard of comfort has risen enormously, and no one would now be content to live as people lived a generation ago. There is more money to spend, and more comforts are to be purchased at cheaper rates. What were formerly luxuries have now become necessities of civilized life. The school is apt to lag behind in this progress. Since our children *must* be sent to school, we should stipulate that they shall be at least

as comfortable there as they would be at home—meaning thereby that all the physical surroundings which have any function in the promotion of health shall be provided. Yet we fear there are few schools where a boy may be as comfortable on a wet day as he would be at home. We are accustomed to the idea that going to school should imply a certain amount of hardship; and some of us even prefer that this should be so, in order that the boy may have some “hardening” experiences provided for him. Whatever virtue there may be in the “hardening” theory—and there is less, we believe, than is generally supposed to be the case—it is not a process which can be safely begun at the age of the Infant School. At that time nothing but risk or positive injury can attend any want of physical comforts of the kind under consideration.

Cleanliness.

Having passed through the cloakroom, the pupil enters the classroom. Here another preliminary point comes under observation, if it has not already been attended to in the cloakroom. That point is cleanliness. Cleanliness has a bearing not only on health but on character, and therefore has a double claim to attention in education.

The amount of care which the teacher must give to the personal cleanliness of her pupils will, of course, vary with the type of her school. Children who come from good homes—which may, nevertheless, be very poor homes as estimated by the family income—will give little trouble in this respect. In the case of those who come from homes of a different type, no effort short of the personal application of soap and water may have the desired effect. In every school, whatever the class of the children, this matter must be attended to, whether by a formal daily inspection, as is often needed, or by an informal but persistent watchfulness. The teacher must have an eye to the state of clothing, hands and fingernails, face, ears and neck, hair and teeth. She must learn to distinguish between the occasional stains of travel,

accident, or conflict, and those which tell of neglect at home, and she must vary her treatment accordingly.

Methods of promoting Cleanliness.

The school lavatory accommodation, which must be ample, should be used, as far as necessary, to correct shortcomings in individuals; but it will often be advisable to secure the co-operation of the home. An elder brother or sister in the school may be enlisted as a helper in some cases; in others, a message or even a visit to the home may be needed. This last expedient the teacher may well be reluctant to adopt, for the home where cleanliness is least practised is precisely the home where the teacher's advice will be most resented. At the same time, so full of contradictions is human nature, there are many mothers who value cleanliness little for its own sake, and who practise it little in their own persons, but who are keenly alive to the feeling of shame at the thought that their children are supposed to be wanting in cleanliness. And so a thankless visit, to put it as mildly as possible, may yet have good results for the school.

The most powerful help which the teacher will find in any struggle for cleanliness in the school is the moral effect of cleanliness itself. Children are quick to feel shame at being thought wanting in this virtue, and the desire to win the credit of possessing it eventually leads to its real acquirement. Popular opinion is with the teacher, however high her ideal, unless she alienates it by over-stringency, or by mistakes in her methods.

The School Seats.

Now the pupils are ready to take their seats. Let us look at those seats. They count for much as regards physical comfort and health. For a large proportion—possibly for too large a proportion—of the four hours or so which make up the "school day," the pupils will occupy those seats.

The seat must suit the child. That is the first essential. It must not be too high or too low. To this proposition we are all ready to assent, but it may be desirable that we should realize somewhat of the discomfort which is caused when the seat is not of the right height. To experience the effect of a low seat, the teacher should try the experiment of sitting still for an hour on a bench which has this defect—not a nice, low easy-chair, but a flat wooden bench of two feet wide or more (keeping in mind our calculus of proportion already mentioned). But as seats in the Infant School are more frequently too high than too low, it would be still better for her to experiment with a seat which does not allow her feet to reach the floor easily. The top of an ordinary table will do. To sit squarely on the edge of this for even half an hour, as still as she expects her pupils to sit, will impress on her as nothing else can do the discomfort of too many of our school seats.

Their Size and Shape.

When the feet are not properly supported on the floor, their weight puts a certain pressure on the under side of the leg above the knee which checks the circulation of the blood in the lower limbs and induces cold feet—a state of things which is not only injurious to health, but hinders active mental work. Mental work itself tends to produce cold feet, on account of the determination of blood towards the brain; and when this is aggravated by the check to the circulation which we have mentioned, the conditions are distinctly unfavourable to good health and to good work.

The weight of the lower limbs should be borne by the feet, their natural support, which should be placed easily and firmly on the floor. When the pupil is seated, there should be no pressure on the inner angle of the leg; the height of the seat must be such as to allow of the feet reaching the floor easily just in front of the edge of the seat. When the pupil leans somewhat backward, as he

naturally does when attending to his teacher during an oral lesson, the feet will be advanced, and provision must be made for their support in this position also. There should be a raised foot-board some distance in front of the seat, with its front edge a little higher than the other.

Every school seat or bench must have a rest for the back, at a height suitable for the size of its occupants—that is, about as far above the level of the seat as the seat itself is above the floor. Without this, the strain upon the muscles of the back involved in maintaining the upright position for long periods is very apt to cause injury to the plastic, growing tissues. The result may be an ungainly habit of stooping, or it may be some degree of spinal curvature, which is far more common in school children than many people are aware of.

School Desks.

The relation of the desk to the seat is also a matter of some importance. Our pupils spend long periods of their school life in work at the desk—writing, drawing, and other occupations. The suitability of the desk, therefore, requires attention. As to distance, the pupil should not require to sit on the extreme front edge of the seat, nor to bend too far forward, in order to see and to handle his work easily. As to height, he should not require to stoop down to the desk, nor should he have to spread his elbows apart in order to let his forearm lie flat on the desk when writing.

The proper posture of the pupil at the desk is often rendered impossible by the form and proportions of the desk itself. The pupil should not turn his side to the desk when working, but should face it squarely. The sideways posture is often allowed and even recommended for writing, but from our present point of view it has two serious disadvantages: it is apt to induce a lateral curvature of the spine, or to cause an elevation of the left shoulder above that of the right; and it places the two eyes at dif-

ferent distances from the work, and tends to cause imperfection of vision.

The slope of the desk is also a matter which needs to be considered. The plane of the desk should be nearly at right angles to the line of sight when the eyes are bent upon the copy-book, or drawing-book, or slate. Otherwise the true form of the writing or drawing is not seen. The horizontal desks often used in kindergarten exercises should not be used for writing or drawing. They are really work-tables. The teacher will find by experimenting on herself that the best form of table for block-building, stick-laying, and the like, is one which is much lower than a writing-desk—distinctly lower than the line of the elbow. Without a low table free manipulation of the objects is impossible. Such tables are useful, therefore, and necessary for many infant school occupations; but they are quite distinct in purpose from writing or drawing desks, and should not be used in their place.

Chairs instead of Benches.

We have spoken of school seats or benches, and of the proper size for such articles of furniture, but few of us would choose a bench of any kind as a seat for ourselves. We should prefer a chair, and in most classrooms a chair is provided for the *teacher*. This ought to suggest the advisability of providing chairs for the *children* too, more especially as they sit during a much longer part of the school day than most teachers do. As a matter of fact, even the best form of school *bench* is only the second-best form of school *seat*. The only advantage which the bench possesses is cheapness, which is the origin of most undesirable things in our schools. The school bench has already disappeared from many modern schools; and if we thought more of the health and comfort of our children, we should provide them with chairs to sit on in school as well as at home.

For young children at home the nursery chair has usually

not only a support for the back, but also elbows to give some lateral support to the body. Chairs of a somewhat similar pattern should be provided in every infant room, as they already are in most kindergarten rooms. These chairs are usually made with a bent-wood rail running round the back and curving down at the sides, not coming so far forward as to interfere with the free movements of the arms when the child is working at the table in front, but sufficient to afford a very necessary lateral support when he is sitting upright. They are light and easily moved, and are also inexpensive. A semicircle of such chairs might well take the place of the chalk line on the floor to which small drafts of a class come for reading and other lessons, and this would permit a wise saving of the energy expended by teacher and pupils in maintaining the correct line, and in avoiding fidgeting.

Standing at "Attention."

We may remark here that the standing posture is often abused in school. Children are made to "toe the line," and to maintain the rigid position known in military drill as "attention," for periods by far too long. There are some advantages in the standing posture for certain lessons, no doubt, but any position which requires attention from the pupils and the teacher simply leaves so much less attention available for the work in hand.

There is a great difference to a military recruit between "attention" and "stand at ease." It might seem at first that the former position should be the more easy to maintain, seeing that the weight of the body is supported equally on both feet. The fatigue of a muscle depends on two distinct factors, however—the tension or strain, and the time during which that strain is continued. Of these two the latter is the more important factor. It is easy, for example, to extend the arm horizontally, but to keep it so for two or three minutes is extremely difficult, and induces fatigue of the muscles to such a degree as to cause

acute pain. The fatigue of standing is diminished almost to the vanishing point when one is allowed to rest the weight now on the one foot and now on the other at will. A teacher who stands during the greater part of the school day without much fatigue, will probably find, if she takes note of her postures, that she very rarely assumes the stiff posture which she prescribes for her class, and that she never maintains it for more than a few minutes at a time. She will also find, if she makes the experiment, that to continue this stiff attitude soon proves a hindrance to active thinking or speaking. It attracts to muscular adjustments a share of the attention which should be left free for other ends.

The Importance of Posture.

The whole question of postures in school—in standing, and in sitting, and in walking—is one which deserves some notice. The preceding paragraph is not to be taken as an argument in favour of careless postures. So far as it condemns rigidity, it does so only in order that undue fatigue may be avoided, and for the reason that a position which involves constant strain upon one set of muscles is specially unsuited to young children. The appropriate or natural posture for any form of work is always one which does not involve strain or unnecessary fatigue.

Posture has a very direct bearing on health, and for this reason the teacher should understand the best positions for her pupils, whether at their desks or elsewhere—when they are standing at lessons for which this position is preferred, or when walking to or from their places, or when performing special physical exercises.

Health and Gracefulness.

This seems at first to require a somewhat extensive knowledge of the physiology of movement; but there is one general fact about this matter which, if attended to, will save much study of particular points. It will be found that the positions which we regard as natural, easy, or

graceful, are also those which involve least strain and fatigue. Those which appear stiff or ungainly, on the other hand, owe this character to the fact that a wrong set of muscles is being called into play, a set which cannot do the work required without excessive strain. In some cases the want of ease and grace is due to weakness in the muscles which ought to be used, or to some abnormality in a particular child. But so general is the rule mentioned that the teacher may take it as a very convenient guide. She does not need to analyze all the movements implied in a certain exercise in order to know whether the children are using the best set of muscles for their work. Naturalness or gracefulness is a good enough assurance that the positions assumed are the best.

The erect carriage of the head, the well-squared shoulders and freely-moving arms, the firm and elastic step, all recommend themselves on the ground of grace as well as of health. The arms folded across the chest, the stoop of the shoulders, the bent neck, and the slouching gait are no less objectionable from the point of view of health than they are from that of appearance.

The same test may be applied in minor movements and attitudes, such as holding the pencil in drawing, or the pen in writing, or the book in reading. The cramped and angular position of the hand and the fingers is due to the use of muscles which are unsuited to the work, and are unable to perform it easily; while those which could do so, and which will probably be used in the same work when the pupil grows older, are in the meantime being deprived of useful training. A man who has much writing to do never uses the muscles for it which are most used in school, and we may be sure that children whose hands assume the ungainly attitudes too common in writing-classes are not employing their muscles in the best way.

Grace and strength are not inseparable, but they are commonly conjoined, as are health and beauty. It is therefore a very safe working rule for the teacher to insist on all

movements being so learned and so practised as to avoid what is slovenly, stiff, or otherwise ungraceful. At the same time, the standard of grace to be kept in mind is one applicable to children, not to adults; for here, as everywhere in education, the exercise must be suited to the child, and not the child to the exercise.

Physical Exercises.

In addition to studying the physical bearing of the ordinary school work, the teacher has also to consider how far special physical exercises may be given for the purpose of aiding physical development and health in her pupils. It is necessary here to mention that physical exercises in the Infant School have a function somewhat different from that which they have in the upper divisions of the school.

There are two general grounds on which the necessity for physical exercises is based. Their first use is in promoting the general health, by stimulating the respiration, the circulation, and the other vital functions of the body. Their second purpose is specially concerned with the muscular system, in developing the special groups of muscles employed, and in increasing the muscular strength of the pupil. To those two uses we may add a third, by no means less important for education, but not directly aimed at in the exercises—and that is, their moral influence on the child and on the class.

Why necessary in School.

But for the enforced inactivity of the school, the normal child would be led by his instinct for activity to take as much exercise as is necessary for giving tone and vigour to the vital processes. This spontaneous activity or play might fail, however, to give a complete and harmonious muscular development; and even if school work were abolished, there would still be some advantage in systematic physical and gymnastic exercises.

In the Infant School our first reason for physical exer-

cises is not so urgent as it will be later. School work at this stage is, or ought to be, less sedentary and continuous, and allows for more frequent periods of spontaneous physical movements by the pupil. In other words, the natural play life of the pupil is not yet so seriously interfered with as it will be later; there is consequently less need for the teacher to atone for her interference with nature's method of physical development by inventing other methods. Yet even in the Infant School there is some need for physical exercises for the promotion of general health. Especially in severe weather, when the pupils are debarred from natural out-door play, some artificial in-door substitute must be found to take its place.

Games in Playground and in Classroom.

The best substitute for games in the playground is games in the schoolroom. We do not mean formal ghosts of games, but real natural romps, accompanied by all the noise which forms a feature of playground games. To a sensitive and conventional teacher this may sound like bedlam let loose. It is not for *her* amusement that the children are playing, however, and they are pretty good judges of what *they* like. It is, of course, necessary to taboo anything which risks damage to furniture or to the children themselves, but with this restriction understood, absolute freedom is best.

Physical Exercise and Physical Strength.

The second use of physical exercises—the development of muscular strength—is also a more pressing matter in the subsequent stages of school life than in the Infant School. A beginning may be made, however, with the simpler elements of some approved system of free drill, with excellent physical and moral effect; but there must be a full understanding of the limits of strength and endurance in the pupils.

The value of physical exercises depends largely on the

vigour with which they are performed, and the temporary fatigue which they cause. At the age of seven or eight, however, a child is particularly susceptible to injury from fatigue, even from such muscular fatigue as is often assumed to be a wholesome thing for a child. At this particular age, as we have already pointed out, the time of the "second dentition," when the first set of teeth are being shed and the permanent set are growing, there occurs one of the physiological resting-places in growth which it is important for teachers to observe. The child is less able to resist fatigue than he was a year or two earlier, and such evils as injury to the heart are specially prone to be induced by over-exertion. It is a time when a little laziness seems to be natural, and anything like pressure of work is quite out of place. The artificial pressure of "Standard I." has happily disappeared, and the teacher should obey nature's plainest teaching, and allow rest when special growth is monopolizing the energy of the body.

School Drill.

Among the opportunities which school affords for physical exercise, we should mention the ordinary school drill or class drill—the various conventional ways of doing things, such as entering and leaving school, or moving from place to place in the classroom, or practising any of those new movements which make school so different a place from home. But the best influence of class drill is its moral influence, and we shall leave this to be more fully discussed in its proper place.

Musical Drill.

Musical drill is a term which covers a wide series of physical exercises, many of which are of special use in the Infant School. In fact, one may doubt whether musical drill is of much use anywhere else. These exercises are usually better calculated to promote grace and ease than to develop physical strength, and this strongly recommends them at present. The exercises which have been devised for

“musical drill” are legion. Books of such exercises have been published; and many of the best have not been committed to books, but planned by individual teachers of inventive mind, and used only in their own schools and for the delectation of their own pupils.

The exercises which one naturally thinks of under this head will hardly submit to classification, they are so varied. They include marching, necessary in all schools; dancing, desirable in all schools; gymnastic or “extension” exercises of a very simple type; dumb-bell drill, ring drill, flag drill, scarf drill, hoop drill, fan drill, and other forms of drill with simple apparatus, too numerous to mention in detail.

Musical drill is in its proper place in the Infant School. The musical accompaniment often used along with gymnastic exercises in older classes is of doubtful value. It does not conduce to that vigour of muscular movement which is of the essence of all gymnastics, and the exercise is apt to degenerate into a very easy-going type indeed. The music is often a distraction from the real business in hand.

Rhythm in Music.

To the young child, as to the savage, music is chiefly a matter of rhythm, which is the fundamental thing in music. In musical drill the music resolves itself almost entirely into rhythm, and this is the music which the child most appreciates. The child is therefore being trained in music as well as in motion. This is not, of course, the end for which the music is performed, but it illustrates the very common maxim in education that everything which is in accordance with the child's nature is educative in more ways than one. There is no such thing as training a child in separate compartments. Every means of real education has an influence wider than that for which we chiefly use it in our school curriculum, and the exercises which develop all the sides of the child's nature are those which the child himself likes best.

Rhythm in Movement.

Again, movements which are rhythmical involve less fatigue than others, provided the rate of the rhythm agrees with the natural rate of the movement. Most of the movements of very young children are spontaneously rhythmical, and many of the play movements of a somewhat later period are also of this nature. In adult life rhythmical movements can be maintained for a long period, even when they involve a very considerable expenditure of energy. The teacher's own experience in a ballroom may stand as a useful example. The development of an equal number of "foot-pounds" of muscular energy by the limbs in any less rhythmical form of movement than that of the dance would involve a serious amount of fatigue.

Now in the Infant School it is of special importance to avoid strain. Hence the value of music, from this point of view—the pupils acquire dexterity and grace of movement without the fatigue which would otherwise be associated with the drill exercises.

Not only is rhythm an advantage, but it will be all the better if the rhythm is one which the children like. They should, accordingly, have a share in the choice of the "tunes," which will secure an interest in the music as well as in the drill. It should be kept in mind also that the rate of movement is of importance. A little too fast or too slow may lose all the advantage which the exercise should bring.

Music will be found to promote grace of movement in marching exercises. Children walk better when stepping to music than at other times—that is, if the teacher attaches the proper importance to carriage, and does not rest content with mere accuracy of time. In marching, however, the rate of the playing is of the utmost importance. The ordinary march time is not suitable for children. The "double" is much nearer the rate which children naturally fall into when they are walking smartly. Too slow a

march makes the walk inevitably ungraceful, heavy, or slouching.

Respiration.

The benefit which physical exercise brings with it for the general health is partly due to the fuller breathing and the increased vigour of the circulation which it entails. We need not enter into physiological details, as every teacher appreciates the importance for health of breathing in a proper way. The influence of full and deep respiration, however, is probably greater and more far-reaching than many people are aware of. One can do much, for example, to avoid a chill when exposed to cold, by increasing the rate and the depth of the breathing, as if in performing some active work. Deep, slow breathing, again, seems to have a soothing or tonic effect upon the nerves when irritated, and may be resorted to with benefit when one feels sleepless at night. But these and other beneficial results of full breathing can only be attained if the air supplied to the lungs is pure air—that is, if it has the proper proportion of oxygen, and is free from impurities. Hence during the time of physical exercise the teacher must be specially careful about the ventilation of the room.

Luckily this is an easy matter, for during the drill time the windows may be opened to their full extent without any fear of injury from draughts. It is the only lesson which has this advantage. In a school which is imperfectly ventilated, therefore, the drill lesson—only a few minutes at a time, perhaps—has a double value. It removes the lassitude of the pupils, and at the same time gives the opportunity for removing its cause.

Importance of Good Breathing.

It must have come within the notice of most teachers who study their children that many of them when they come to school do not breathe as they ought to do; they do not fill their lungs to the necessary extent, or they

breathe through the mouth, thereby exposing the throat to danger from cold air. The air which passes through the nostrils reaches the larynx much warmer than that which is allowed to flow directly through the mouth; hence the danger to the throat when one passes from a warm room into frosty air is much increased if one goes on talking, or breathes through the mouth. There is comparatively little risk from this cause if one keeps the mouth closed.

The importance of correct breathing is now so fully recognized that in many schools the breathing exercise is one of the regular physical exercises of the day. It involves the attitude of head and shoulders, and the proper action of ribs, diaphragm, mouth, and nostrils, in the admission and the expulsion of air. All this is done as a drill exercise, without any of the anatomical explanations which might seem to be necessary. The lesson is designed to *practise* breathing in the right way, not to explain the physiology of the process. Such an exercise is specially valuable in the Infant School. It is one which can be learned early, and which cannot be learned too early. Like all other habits, its early acquisition will ensure its permanence.

The influence of good breathing is not confined to the promotion of health. It will tell for good in many of the ordinary exercises of the upper school as well as of the Infant School. Breathing is the foundation of all vocal efforts, whether in speaking, in reading, or in singing, and there are common faults in all of these which can be removed only by correcting faults in breathing. The voice is produced by the vocalization of the stream of expired air, and command of this stream, both as to quantity, and direction and mode of issue, is necessary to the production of any desired vocal effect in speaking and in singing alike. It is only when bad habits of breathing have been formed by a pupil that the teacher can realize how entirely good singing is a matter of good breathing.

From whatever aspect we regard the matter, therefore, we shall see it advisable to include among our daily physical exercises the simple exercise in breathing, beginning with the posture of the body, and passing on to the chest action, and the control of the air as it is being expired. A few minutes of this will suffice, and frequent repetitions will help to form a useful habit. On a cold morning we shall find this breathing practice better than some more violent exercises in sending a healthy glow through the limbs of the little ones.

Care of the Eye.

We have next to consider some of the dangers to the health of the child which are incidental to school life, and which the teacher requires to guard against.

The eye is, perhaps, the organ which is most exposed to danger from school work, and which suffers most injury from its use or its abuse. This is not to be wondered at when we take into consideration the following three facts about it. First, the eye is one of the most complex and delicate pieces of mechanism in the whole complex body, and is susceptible to injury in a large number of different ways. Second, the eye is made more use of in school work than any other of the special organs of sense, and its use always implies some degree of activity in the organ. Third, the eye in early childhood, as we have previously explained, is not only deficient in strength and endurance, in common with all the organs of the body, but it is of a different form from the mature eye; this difference of form throws more work upon the muscles of the immature eye than is required from those of the adult eye, so that both its plasticity and its form render it specially subject to injury.

For an adequate knowledge of the eye in its structure and functions, such as it is essential for a teacher to possess, some reliable modern manual dealing specially with the subject should be studied, as we cannot do more here than

mention some of the aspects in which it will come under the special notice of the Infant School teacher.

The Physical "Training of the Senses."

We all lay much stress on the *training of the senses* in education—at least in our theoretical discussions—but what we have chiefly before our minds when we use the phrase is a form of intellectual training which really means the *interpretation* of the sensations received. There is another meaning which the phrase should suggest to the teacher. "Training the senses" ought to remind us that there are *physical organs of sense* which need to be considered. A perfect organ, or at least an organ not far from the normal, is a necessary condition of there being sensations of real value to interpret. The organs of sense are capable of physical development or deterioration, and of thereby becoming better or worse instruments for the exploration of the outer world. It is to be feared that those of us who are most bent upon the intellectual training of the senses are often the least observant of the care which is needed to develop the instruments by which this intellectual advantage is to be acquired. The training to "use the eyes," or to see with the understanding, is apt to result in an abuse of the eyes as physical organs. It is thus imperative that the infant teacher should have more than a merely general idea of the proper use and care of this organ.

Eye Fatigue.

The constant use of the eye in school work is not in itself an evil, and is indeed unavoidable and natural. We all use our eyes throughout our waking hours; and if we do so judiciously, they are none the worse for it, and perhaps all the better. No one with normal eyes ever thinks of shutting them or bandaging them up in order to give them rest. In the use of the eyes, as in so many other activities of the body, it is not *absence* of occupation but *change* of occupation that is the true rest. This is the principle

to be kept in view when we speak of the constant use of the eyes as being a danger. Fatigue and injury result from prolonged strain upon the muscles which accommodate the eye to the special work in hand, and the greater the amount of muscular adjustment required for the work the shorter should be the time spent in it.

An eye of the normal type requires most active adjustment when vision is directed to objects near at hand, and the muscles involved are then most readily fatigued. When used too long in this way, the muscles are apt to be more or less permanently injured. Prolonged looking at objects which are small, or are relatively small for their distance, brings strain of a different kind. When one has been for some time engaged in reading a book printed in small or indistinct type, especially in a type which is not familiar, the eye naturally tries to escape from its bondage now and then by glancing over the top of the page and resting for a moment on something at a distance, such as the opposite wall of the room. This is done without any conscious purpose on our part. This little excursion of the eye is a real rest for the time, and relieves both forms of strain mentioned. This is the explanation of the wandering glances in a class, which the teacher is apt to regard as a dereliction of duty. These glances are the almost unconscious result of fatigued eyes among the pupils, and the inattention which often accompanies them is due to the same natural cause. The pupil is often a better judge than the teacher of the time when a pause is needed in the class work.

Effects of Fatigue.

Fatigue affects adult and youthful eyes alike, but the immature eye is specially liable to fatigue on account of its form. A large proportion of children at the Infant School age have what is called "flat" eyes—that is, eyes whose diameter, measured from front to back, is shorter proportionally than that of the adult eye. Since the retinal screen is thus nearer the lens of the eye, the ac-

commodation muscles have more work to do in altering the form of the lens in order to focus the light from near objects, and to form a clear image on the retina. In most cases the muscles are able to adjust the lens, but it is at the cost of some strain; and the effect of too prolonged looking at near objects may be to deprive those muscles of their elasticity by over-exercise, so that the eye will develop permanent short sight.

On the other hand, in children who are physically feeble the muscles may not be able to keep up the tension required, and after a little while they refuse to act. The light is no longer focussed exactly, and the image of what is being looked at is not distinct. It is not safe to assume that the child who mistakes an *n* for a *u* is careless in his reading, or does not know the difference between the letters. The mistake may be due simply to imperfect vision arising from fatigue of the eye muscles. The proper treatment may be, not *more* reading practice but *less*, until, with the general advance in physical strength, the weak but growing eye may become able to adjust itself to near vision for longer periods without fatigue.

If the "training of the senses" means something which is to be of value throughout life, it is clear that our pupils ought to leave school with their eyes better instruments in every way than when they came to us for this training. This seems a moderate demand, but it is a demand which is not always fulfilled in practice. Experts who have examined the eyes of school children tell us that defects of vision are actually more common in the higher classes of the school than in the lower. This points clearly to misuse of those delicate instruments in some way, and that this misuse is due to ignorance on the part of teachers is the only possible explanation. If we know positively that a certain exercise in our school work is injurious or dangerous to sight, we ought not to hesitate for a moment to remove it from our time-table, or to confine it to a much shorter period there.

Light and its Distribution.

We see by the aid of *light*, and human eyes require a greater amount of light than those of some of the lower animals; in fact, there is a degree of light not easy to define, and not exactly the same for all individuals, without which seeing is either impossible, or is possible only with difficulty and a certain amount of strain. Yet in many schools the amount of light in certain parts of the rooms is not sufficient for the work which we expect our pupils' eyes to perform. Wherever light is at all deficient, all forms of eye strain are aggravated. Hence wherever the lighting is defective either in amount or in distribution, we must either take steps to have the defects remedied, or we must demand a proportionately less quantity of work from the children.

Normal eyes are adjusted for equal vision with both eyes at the same time. Not only should the work be so placed that it is equally distant from both eyes, but the light should also be so arranged that the amount entering each eye is nearly equal. It is highly objectionable to have a strong light from the side front falling so that there is a glare of light shining upon one eye, and causing an internal illumination within that eye. We may realize the discomfort of this by standing so that the sun shines along the front of one eye while the other is in shadow, and looking at the scene in front of us with each eye singly in turn. In such a position the brightness of the scene varies much according as we view it with the shaded eye or with the other, and the combined image produced by the two eyes so differently illuminated is not normal, and tends to cause a feeling of discomfort. Children require a good light on their work, but use must often be made of the window-blinds to regulate it. One of the best forms of blind is that used in some Swiss schools, rising from the bottom instead of falling from the top, so that shade is provided without darkening the whole room.

Tests of Vision.

The teacher has this peculiar perplexity in dealing with the vision of her pupils, that not only are few of them endowed as yet with normal eyes, but that the abnormalities which occur are of an endless variety of kind or of degree. Her most obvious safeguard is to know all that she can about each individual child in this matter. A simple series of sight tests will be of much value. All well-equipped schools possess a set of test types on a card, by which a child's power of vision may be tested. These tests should be used not only when a child comes to school, but regularly thereafter at intervals of at most six months. This will be a very useful beacon to give warning of deterioration, or of failure to improve, in the power of seeing.

In no case, however, should a teacher use or recommend any remedial measures on her own responsibility. If she thinks that a certain child needs spectacles, the child should be sent to a skilled oculist in order to be examined and advised. The only prescription which comes safely within the teacher's sphere is the recommendation of more rest for the eyes in school—that is, the decrease of work which requires close vision.

Signs of Weakness.

There are other indications of weakness in the eyes besides the inability to read the test types at the proper distance. Weakness often shows itself in congestion or redness of the eye or the eyelid. It may be suspected also when there are frequent headaches. The fatigue of the eye muscles is not felt in those muscles themselves, but often shows itself in some indirect way, such as headache, or even acute neuralgia, for which some totally different cause is assigned. A careful teacher will learn to be on the watch for such symptoms, and she will find the advice of the medical officer or oculist (who should be attached in some capacity to every school) a valuable

help in the solving of some of her school problems. In the meantime, however, so much have we ignored the connection between body and mind in education, that there are comparatively few schools where there is a recognized medical officer for the teacher to consult. We are now making some advance in this matter, and every year will see additional progress.

Reading Books and Reading Sheets.

Due care for the eyes of her pupils will not only make a teacher slow to set her young pupils to learn reading, but it will make her very careful also as to the size and form of type in the books and sheets which she uses when reading is begun. Clearness is, of course, the primary requisite, but clearness is not always a matter of size. A type of good proportions, with not too much difference between the thickness of its different parts, and with plenty of "daylight" in its openings and curves, is much more easily read than an even larger and heavier type of a less simple character, or compressed in its curves. At the same time, it need hardly be added that no really small type should be used in the infant room, whatever its form. The paper of the book should also be looked to. A highly glazed surface is objectionable, as it reflects the light in such a way as to cause annoyance, and it may lead the children to hold their books at an awkward angle.

Paper with a soft tint of green or blue is sometimes advocated, and sometimes coloured printing is declared to be good. This is probably a mistake. In a strong light either tinted paper or coloured ink seems to be more fatiguing to the eyes than plain white and black; and if the light is not strong, the use of any tint loses that distinctness which is essential to easy reading. If the light is so strong that the contrast of black and white is really painful, the obvious cure is the use of window-blinds. In dull light the full contrast of black and white is required for distinctness.

Accidents to the Eyes.

As a final remark on the care of the eye in school, we may notice that sometimes a child meets with a slight accident to his eye in school or in the playground. The most common injury is a speck of dust in the eye, which sounds a very small matter, but which may cause a young child a great amount of pain. The teacher should know how to deal promptly with such cases. This requires some control of her own nerves. The eyelid may be turned back for examination, and the dust or grit removed without causing any pain, if the teacher has confidence; and this should be done at once, before the child has time to cause injury to the eye by rubbing it. If taken at once, such a case will probably be forgotten ere the end of the school session; if left over, an inflammation may be set up which will affect the eye for a considerable time. The teacher who is most prompt and steady in such a case is likely also to be the one best fitted to judge whether any particular case requires better skill than her own, and, if so, to see that such skill is at once obtained.

The Ear.

The ear as an organ of sense is less active than the eye, and is less subject to injury through the ordinary influences of the school. Yet the ear also is a proper subject of study, if only for the general reason that whatever we undertake to train we ought first to understand. The ear is not strained by too much listening, as the eye is by too much looking. So far as sound is concerned, indeed, the ear of a child seems to revel in noises which are painful to an adult. Any fatigue that may be caused by listening is of the nature of general brain fatigue, and not strain of the auditory apparatus itself.

Dangers to the Ear.

There are two types of injury which the ear sometimes incurs at school—positive injury through a blow on the

head or ear, and earache caused by cold feet or by draughts. A box on the ear may cause serious and even fatal injury. Children who are given to rough play among themselves should be specially cautioned on this and similar matters. We do not need to say anything here regarding the disciplinary box on the ear, which in a more barbarous age a pupil might receive; for such treatment of a child by a teacher is a more fitting subject for a treatise on criminal law than for one on education. Earache is a somewhat common trouble with children, especially during the period of the second dentition, and a draught which at other times would be harmless may then prove the exciting cause of a severe attack. The pain usually yields to the application of warmth, but in severe cases medical advice is essential. Inflammation and abscesses in the ear, often due to neglect, are common causes of permanent injury to hearing.

While the ear itself is practically safe from actual injury through ordinary school work, imperfections in hearing are probably more common among school children than most teachers are aware of. And since the ear plays so very important a part in education—too large a part, sometimes—the teacher should take care that she is really aware of the state of this organ in every child under her charge. It is certain that many children who are classed as dull or stupid owe this reputation to the fact that they are slightly deaf, and thus lose a great part of what is said in the class both by the teacher and by their fellow pupils.

Tests of Hearing.

It is more difficult to devise an accurate test for hearing than for sight, but it is easy to use such a test as will reveal any defect likely to interfere with progress in school work. The ticking of a watch is frequently used as a test, and this may serve if the same watch is always used, and under exactly the same conditions. A very practical test is to place a child, facing so that he cannot see the teacher's

lips, at the most distant place occupied by any pupil in the class, and then to speak to him in the ordinary tone of voice. If this is not distinctly heard, the distance of the pupil must be gradually decreased until the exact distance is found at which the child can easily hear the ordinary speaking voice of the teacher.

Causes of Deafness.

Slight deafness in children is often due to preventable or to removable causes. Perfect hearing requires free passage of the air through the Eustachian tubes, which connect the middle ear with the back of the throat. The deafness which often accompanies a cold in the head is due to the temporary closing of these tubes. In many children they are permanently blocked. This seriously affects their hearing, and their progress in school work suffers. Any child who habitually breathes through the mouth is likely to be defective in hearing; the mucous membrane of the air passages is in an unhealthy state, and medical aid may be required to bring things into a normal condition.

Another common cause of deafness, the frequency of which is only now being realized, is the presence of certain growths in the back part of the nasal passages. These adenoid growths, as they are called, not only form an obstruction in the air passages and cause deafness, but they may also press on the blood-vessels and interfere with the proper circulation through the brain. This leads to a low general vitality which, combined with the slight deafness, makes normal educational progress impossible. Such a pupil is apt to be classed not merely as "dull," but as "mentally weak."

What the child suffers from is not an imperfectly developed or abnormal brain, but a brain which is partially starved from the lack of a full blood supply. In cases where those growths have been removed by a comparatively simple surgical operation, the result has frequently been a complete change in the mental character of the child.

All dullness has disappeared, as well as all deafness, and the child has at once begun to make normal progress in study. It is highly desirable that all children who are found to suffer from slight deafness combined with an apparent chronic cold in the head should be examined by a competent medical man without delay. This is one instance where the co-operation of the teacher, the parent, and the physician is a clear duty to the young.

The Throat.

The throat is not a sense organ, but it comes next to these in importance for school education, as being the organ of the voice. The throat has so many functions to perform, and is subject to so many disorders, some of them due to school influences, that it demands some study and some care from the teacher. Moreover, it is a part so easily examined that many who have the management of children advise its examination daily, or at frequent intervals. There are, of course, forms of throat examination which require a specialist provided with special apparatus, but the examination to which we refer is one which any teacher can easily perform.

It is certainly important that we should know the normal appearance of the throat, and should be able to detect at a glance any evidence of swelling or inflammation. Many children suffer frequently from sore throat, and there are special forms which are characteristic of serious diseases. To discover such symptoms is, of course, the duty of the parent rather than of the teacher; but unfortunately there are so many homes where such duties are neglected, that a teacher who values the health of her little ones must often face disagreeable duties which ought not to fall upon her. The sphere of the teacher, like that of most people, is limited not by what ought to be *expected* from her, but only by what she finds it *possible* to perform. It should be added that this special form of extra duty will be found of very great importance during the prevalence

of certain common epidemics, which show themselves in an early stage by some slight disorder in the throat.

The Throat and the Voice.

One great function of the throat is the production of the voice. Training in the use of speech is not wholly intellectual, but includes a knowledge of some physical principles. This has already been indicated under the head of breathing exercises. The proper position of the organs of sound in the throat may require some training, which the teacher must give when necessary. A harsh, strained tone both in speaking and in singing is too common, especially in large classes, and is to be condemned not only for æsthetic reasons, but also for physiological reasons.

Distinct, audible utterance is more a matter of skill than of strength, and to secure it implies a form of physical training. It is a training, however, which is given more easily by example than by precept. The child perceives the result in the teacher's pattern, and thinks only of the result when he tries to imitate it. The mechanism by which that result is produced does not, as a rule, come under his notice. There are faults, however, which can be cured only by pointing out the faulty position of the parts concerned in the production of sound—the throat, the mouth, the tongue, or the teeth—and such errors require that the pupil should consciously imitate the movements required until the correct habit is learned. A simple series of what we may call vocal gymnastics—prescribed movements of lips, tongue, etc.—are often found useful. Phonetic drill may help to correct common faults. Selected words or sounds should be practised, to ensure pure vowels and crisp, sharp consonants. The form of this exercise will depend much upon the type of error most common in the locality.

Care of the Throat.

The hygiene of the throat, so far as the school is concerned, is somewhat simple. It may be summed up in

the words—fresh air. Colds and inflammation of the throat, the nasal passages, and the Eustachian tubes are not usually due to mere cold. In the extreme rigour of an Arctic climate such troubles are unknown. The most common cause of injury is *impure* air. The danger which one incurs in leaving a warm room and passing into a cold outside atmosphere is largely due to the lowered vitality caused by the impure air indoors. In such cases it is specially important to keep the mouth shut, and to breathe through the nostrils. This ensures that the air which strikes against the larynx shall have been somewhat warmed by its longer passage through the nose. The carrying on of a conversation under such circumstances is fraught with special danger, and the direct blasts of cold air against a larynx already lowered in tone and power of resistance by impure air may cause acute inflammation or temporary loss of voice. This is a caution probably more needed by the teacher than by the pupils, who rarely suffer from an atmosphere so badly vitiated as that of our crowded evening meetings. At the same time, in keen, frosty weather our pupils have somewhat of the same danger to face, and we can help them by giving special care to the purity of the air indoors. This, after all, is the best preventive against harm from the cold air out of doors.

Draughts.

While a healthy individual should be able to face a low temperature without “taking a cold,” the same cannot be said of exposure to draughts. The chilling effect of a draught is due not to the temperature of the air, but to its motion. This lowers the temperature of the body in several ways, and it may do so to such an extent as to be a danger to even the most healthy. When one thinks of the coolness produced by the use of a fan in hot weather, one can better realize the effect of a stream of air in rapid motion during cold weather. There must, of course, be motion of the air in the classroom in order to ventilation, but the

currents produced in any part of the room where children are seated should not be perceptible. When more rapid currents are needed to change the air of the room, the children should either be out of doors or engaged in active exercises in the room.

Defective Circulation.

Many children have a defective circulation, especially those who are subject to cold feet, and such children are often apt to suffer from earache, toothache, sore throat, and other forms of local inflammation characteristic of bad circulation. This gives additional force to the remarks already made about the evil of wet shoes in school. Whatever expedient may be used to avoid it, a young child should never be allowed to sit for any length of time in school with feet wet or cold. If his shoes have become thoroughly wet, and no remedy is available, it is much better to send him home for a day, or part of a day, than to allow him to sit in this condition during the whole meeting of the school. A robust boy may suffer no apparent harm from such an experience; yet the waste of vital power even to such a boy is a hindrance to his physical development, and therefore to his complete education. And even in the case of the most robust boy the pitcher may go once too often to the well. Nature is apt to collect accounts due to her and present them for payment at times when it is particularly inconvenient to pay.

Cold hands are also to be avoided in school. Apart from the possible development of chaps and chilblains, the effect of cold is to make the hands useless for the time for all the movements of school work. It is comparatively easy, however, to deal with cold hands, and a few minutes of vigorous exercise will usually remove the discomfort. It is unfortunate in this aspect that we have lost the habit of keeping the feet bare as well as the hands. Were this our practice, there would be little danger from wet or cold feet in our Infant Schools or anywhere else.

General Health.

The physical development of the child depends not only on the special and local health of the separate organs and parts of the body, but also on his general strength and vitality. Health is a somewhat vague term, but we know in a general way what it means, in contrast not only with sickness but with weakness, or feebleness, or want of tone. Perfect health in the young is somewhat exuberant in type. The "picture of health" which we speak of in a child is a health based on an apparently insatiable appetite, and expressing itself in irrepressible activity and perpetual motion.

If there were no intermediate stages between this type of health and "sickness" such as requires that the child be kept at home, the teacher would have little need to study the general tone and vitality of her pupils. Unfortunately the ideal health which should characterize childhood is by no means the rule. In many schools, especially in cities, it is a somewhat rare exception. There are many children who never enjoy that full-blooded vigour which is necessary for the building up of a physically perfect man or woman. There are children in our schools every day who would be much better at home, if only their homes were what they ought to be. There are all degrees of imperfection in general health represented in our classes, short of that weakness which renders school attendance impossible.

Low Vitality.

When the body is thus wanting in general strength, all its available resources are needed for the essential work of growing, and there is no spare energy properly available for what we may call the luxury of intellectual education. Hence the teacher should be as well informed as possible regarding the general health of each of her pupils. She should be familiar with the outward marks which commonly betoken the absence of bodily vigour, such as pallor

of the face, languor of movement, and feebleness of attention. She cannot, of course, give strength to the weaklings, but she can modify her demands on them so that there shall be as little strain as possible.

While vitality is at a low ebb, it should be allowed to flow into the most natural channels and to perform the most necessary work, and not be wasted in exercises which, however good in themselves, become evil when they hinder something of more importance. School work must be regarded as subordinate in importance to the building up of the body in health and strength. It is a crime against nature to require from feeble or delicate children any work demanding active exercise or restraint, which will encroach upon the supply of energy needed for nature's primary work.

Physical Measurements.

We have already remarked that every school should be provided with simple apparatus for measuring and weighing the pupils. The height and weight of individual children at any given age will vary greatly, and the average for any age will vary with the locality and the circumstances of the school; but every individual child who is in good health will show a *percentage* increase in his measurements which is fairly normal. The failure to make satisfactory increase in weight, for instance, is a pretty sure indication that a child needs special attention. In any good boarding school such a symptom would be regarded as calling for special care as to food and exercise, and for a diminution in the hours of study, just as a failure to pass a fair examination in Latin would call for special attention to that subject. This state of things has not yet become universal even in higher-class schools, but it obtains in some of the best, and is a mark of the enlightened spirit which is gradually coming into our educational methods.

In our common or elementary schools the physique of the children is receiving a rapidly increasing share of attention, and we shall perhaps soon see teachers showing the

same pride in the good physical condition of their charges as they do at present in their intellectual advance. Until we reach some such stage as this, we are far from having an intelligent appreciation of what education really implies; and in the meantime, so little have we thought of our responsibilities, that few of us could even make a fair guess at what a child of any given age should measure or weigh. We could make a much better estimate of his probable attainments in reading or arithmetic.

Nervousness.

One phase of weakness comes frequently before the notice of every teacher. That is what we call in a general way "nervousness." We may have been accustomed to think of nervousness as a mental rather than a physical condition, but the nerves are as purely physical as the skin or the blood. Any abnormality in nerve action is a physical phenomenon in the first place, however closely it may be associated with mental phenomena. We should therefore look to physical treatment in the first place for the cure or alleviation of the weakness.

Deviation from the normal here may be either in the direction of *too much* or of *too little* activity, the one form showing itself in great quickness in mental work and excessive muscular mobility, and the other manifesting itself in the "dull" boy, who is too little responsive to stimulus of any kind. Both forms require special treatment, but in school both forms usually receive precisely the opposite treatment to what they require.

Over-Activity.

The over-active child is often regarded as a model of all the virtues, intellectual and moral, and is aided and encouraged to still greater activity. Such is the material that our first-prize boys and other prodigies are made of—fine material to handle, so plastic and so responsive to every touch of the teacher; yet poor material in the long run,

and ill fitted to stand the wear and tear of a lifetime. Precocity is always a danger-signal to the thoughtful. In plant, or animal, or man, it indicates a condition of instability, a danger to full healthy maturity; and if the work of the school is to aid in the "preparation for complete living" by securing the normal perfection of each successive phase of child life, then precocity at any stage is a hindrance to true education. Those who regard it otherwise sacrifice the end of education for the sake of a specious perfection in one of its means.

When nervous irritability shows itself in the form of abnormal keenness or precocity, the teacher must be ready to use the rein and not the spur. The recognition of precocity as a *danger* is really the important thing, for the tendency is to be gratified with all marks of "cleverness" without considering what it may entail in after life. There is, of course, no absolute test of what is normal and safe. Experience, enlightened by the observation and study of children, must be the guide. The home can afford little aid to the teacher here. A parent's field of observation is limited to his own children and those of his immediate friends, and he is liable to look on precocity in his own children with a favourable eye, and to see nothing dangerous in it. The teacher has a wider experience and a more unbiassed mind, and ought to be the best judge as to when a child needs to be kept back rather than to be urged on in his school work.

Under-Activity.

The specially slow child, whose nervous weakness takes the form of deficient activity, is exposed to dangers of a different kind. His peculiarity, which arises from the physical state of his nervous system as absolutely as if it were an attack of neuralgia, is nevertheless regarded as a special form of "original sin." It is accordingly often subjected to treatment with a moral aim, exercised, perchance, in the form of physical stimulus, or of other tradi-

tional prescriptions appropriate to such cases, till the boy's school life becomes a misery to him. This want of understanding of his case, and consequent want of sympathy, may be really less harmful to him in the long run than the rewards and encouragement which are bestowed upon the precocious child; but it fails to meet the ends of education. The result is likely to be that the boy conceives a lifelong aversion from books and other influences which it is the special function of the school to recommend to him. Perhaps the most serious result of all is reached when such a boy comes to believe his teacher's estimate of him, and to think himself a stupid or useless fellow. In this case he will be left without initiative and without hope in the world, and will swell the list of our helpless ne'er-do-wells, who are doomed to failure chiefly through want of faith in themselves.

In the case of the boy whose nervous weakness takes this form, the point to consider is whether or not he is doing his best. His best, however poor it may be as compared with that of others, is all that he should be expected to do. If we can in any way increase the effectiveness of the boy, and raise the level of his possible best, that will be our next duty. If, for example, unsuspected defects of sight or of hearing stand in the way of his more rapid progress, we should know it, and we should see what can be done to remove those hindrances. If his slowness is due to defective nourishment, to insufficient food or clothing, to want of sleep—which is too often insufficient in city life—or of fresh air and sunshine—which is universal in city life—or to work done outside of school hours, we should at least be aware of the facts. We can then make due allowance in our demands upon the boy in school, and avoid blaming him for things which are not under his control.

“Nerve Signs.”

Considerable study has recently been given to nervousness in school children. Skilled specialists have pointed out

many ways in which it can be detected, basing their tests upon the fact that anything abnormal in the nerves usually shows itself in the movements of the muscles, especially the smaller and more mobile groups of muscles. The muscles of the face betray nervousness, in the excess or in the want of expression seen in the features. The whole muscular system indicates it, either in a general looseness of pose and movement, or in excessive mobility and fidgeting. The eye shows it in either restlessness or listlessness. The hands show it when extended horizontally in front of the body, either in a droop of the fingers expressive of weak nerve stimulus, or in an upward bend indicative of over-tension.

All these and other "nerve signs" will reveal useful facts to the teacher, and she should observe them narrowly, but unobtrusively and without the knowledge of her pupils. She will perhaps discover that the perfectly normal child is considerably rarer than she had thought, and she will certainly find many reasons for thinking of the children as individuals rather than as members of a homogeneous class.

"Special" Schools.

One useful outcome of the study of nervousness is the recognition that there are many children who are too far from the normal to be properly taught along with those nearer that hypothetical standard, but who are not so heavily afflicted as to be fit subjects for a juvenile asylum. For such children "special" schools have now been established in most large towns. It would be well that every teacher should visit such "special" schools if possible, and see the various forms which defects assume in children, and the educational means which have been invented to help such children. Most of the difficult cases which occur in the ordinary school are the same in nature as those of the "special" school, and only less in degree. We may never thoroughly understand a machine which we have charge of until something in it goes wrong and calls our attention

to its inner mechanism; and the same is true of the human body, which is the machine that the teacher undertakes to manage and keep in order. A very short experience in a "special" school would teach one how little the subjects of the curriculum count for, and how much education depends upon the individual child, especially in his physical aspects. It is in those "special" schools, if anywhere, that education has become really scientific, by being based upon the nature of the child.

Infectious Diseases.

There is one aspect in which the health of the pupil often comes prominently before the teacher's notice, and that is in connection with the epidemic diseases to which children are subject. Such infantile troubles as measles, whooping-cough, scarlet fever, mumps, chicken-pox, and the like break out from time to time in both city and country schools. The teacher will find it useful to know the early symptoms of such diseases, and to be specially on the watch when any one of them is known or suspected to be in the neighbourhood. Then, if at no other time, her knowledge of the normal appearance of a child's throat may save some danger both to an infected pupil and to those with whom he might come into contact. At such times one cannot always rely on sufficient watchfulness in the homes of the children.

The common channels of infection between children should also be well known, and special attention is needed in the cloakroom during periods when infectious diseases are rife. The contact of damp, steaming over-garments is a common means of spreading infection from one home to another.

There are other diseases, not usually classed as epidemic, but yet intensely infectious, such as certain affections of the skin; and when these appear in a school much will depend upon the teacher's knowledge of the elements of hygiene and the laws of infection.

This whole subject is so important that it should be studied in some special manual of hygiene or public health.

Common Accidents.

The treatment of common accidents is another matter in which the teacher must rely upon the teaching of specialists, such as may be received in ambulance classes or acquired from books. Every school is now and then the scene of some accident, however simple, which calls for a little knowledge of this sort from the teacher. Accidents from falls, or from the use of sharp instruments, or from playing with fire, often result in a great deal of fright with little danger, and it is desirable that the teacher should know whether there is real danger or not.

Things will sometimes get into little eyes or ears, and a call for help is made. A summer wasp or bee will occasionally make an invasion with similar results. Faints or fits come under a different category, but for these also the teacher must in the first instance prescribe. Many are the calls upon the teacher which require a little elementary medical or surgical skill, and demand cool nerves and prompt, sympathetic action.

There is here a wide enough field of action for the infant teacher, but none of these things can be matter of indifference to her, however far removed from teaching. She can never foresee when some matter in which she has neglected to prepare herself for intelligent action may suddenly assume such a position that her ignorance will appear to herself as culpable. But enough has already been said by way of suggestion, and no more can be attempted here.

CHAPTER VII.

THE TRAINING—INTELLECTUAL.

WE come next to that which is more commonly regarded as the “education” of the pupil—the instruction and the mental and moral training which he is to receive in school. This is, however, only a part of his education, and it must be so designed and carried on as to co-operate with his physical training to form a completely educated individual—a sound mind in a sound body. Our aim in the following pages will be to consider how, by means of instruction suited to the nature of the child, we may cultivate that “many-sided interest” which Herbart desiderates, and that knowledge which is a necessary guide for conduct. Conduct must be founded on knowledge, and the good character must be the outcome of the will acting with full knowledge of its conditions. Instruction is therefore necessary for moral as well as for intellectual training; there is no knowledge which may not acquire a value for morality, and there can be no morality which has not the enlightenment of knowledge.

Order of Treatment.

The traditional course in the discussion now before us is to enumerate the various “subjects” which form the recognized curriculum of the Infant School, and to consider these successively in detail. This corresponds to the traditional practice in the school itself of giving lessons in these “subjects” one after another as the time-table indicates,

leaving the child to adapt himself to the methods which have been devised as best for each subject. He thus lives a number of parallel mental lives daily as the clock rings in the recurring subjects, each of which rules over a strip of his mental territory.

Our Centre the Child—not the “Subjects.”

We shall find it better in every way to keep our mind fixed on the child and his requirements, and not on the scheme of subjects or the time-table. This will enable us to examine the orthodox scheme from a central point of view, and to modify it as we may see desirable. It will give us a criterion by which we can judge the traditional methods of teaching each subject. If we have a clear idea of the use which is to be served by including any subject in the time-table, we shall be all the more likely to see how that subject can be taught so as to perform its appointed work in mind-training and character-building.

If we make the pupil the centre of our scheme, the division of that scheme into separate subjects will assume less importance; for though we may retain that division as convenient, it is largely an artificial one. Any given reality, any fact or event, which we think it important for our pupils to understand, does not belong exclusively to any one of the school subjects, but may be treated as belonging to several or to all of them as we choose. To present fully any given fact, we may have to wander into the various spheres of literature, history, geography, science, number, drawing, and others. A purist in method might listen to one of our lessons and feel quite uncertain whether we meant it as a lesson in one or in another of these “branches,” and yet the lesson may be quite properly given. Keeping our attention upon the child and the fact or event which we wish him to understand, we shall present it in the way that will best serve our purpose; our aim is not to teach history or science, but to promote the mental growth of a child.

All "Subjects" inter-related.

Our various sciences or "branches" are so many distinct *planes* of thought; but any reality may be compared to a geometrical *solid*, through which there may pass an infinite number of geometrical planes, and that in an infinite number of different directions. Our object in teaching is not in the first instance to develop any of these planes, but to work through the real object of our lesson in as many different planes as we see to be profitable for this particular child or class. We do not use the solid fact at this stage for the purpose of developing some particular plane of thought, but we develop planes of thought incidentally by following them in the exploration of real objects.

As we help and encourage the child towards the spontaneous exploration of his world, and to growth in knowledge and in power thereby, we require to have in our own minds certain principles to guide us. But these principles are for our own guidance; they are no concern of the child's, who could not understand them, and who should not be confused with the attempt to do so. They are the underlying principles on which we are to plan our curriculum of study, and to determine our methods.

The Basis of a Curriculum.

The child who is growing up under our care is to live in a world which we may consider under two aspects: it is a *world of things*, and it is a *world of men*. His life will be bound up with both, and he must be able to adapt himself to both aspects of his environment. Hence a knowledge both of men and of things will be necessary for the guidance of his conduct. On the one side, therefore, we see the need for humanistic study—for literature, history, social duties, and all that throws light upon the nature of man, his activities and his destiny. On the other side, we are forced to study the world of nature—of geography in its widest sense, and of the natural sciences. This, of course,

is the complete programme of school education, not that of the Infant School; but we must know where we are going before we can tell in which direction we ought to start.

All this work is to be undertaken, moreover, not with a view to the sciences and the subjects which we have indicated, but with a view to the needs of the student as the first and the last thing. To master even one of those studies is far beyond the work of the common school, and requires a specialized course of instruction after the period of the elementary school. During that period, and especially during its initial stage, the Infant School period, it is not the subject but the child which is the centre of everything in curriculum and in method. The matter must be selected throughout with this aim. The needs, and the abilities, and the interests of the pupil will be our guide, both as to selection and as to manner of treatment. We must not think, for example, of giving lessons in *history* or in *science*, but only of telling the child about *persons* and *things* which fall naturally within his circle of thought and interest, and which can be so treated as to widen and enlarge that circle by natural growth. In this way we shall help on the mental growth of the child.

The Humanistic and the Naturalistic.

From the standpoint we have chosen, the old controversy between the advocates of a humanistic or literary education, and those of a naturalistic and scientific education, entirely disappears, and is seen to be based upon a narrow view of what education really means. An education which is to adapt a man for living in a world of men and of things must of necessity take account of both. The man who is ignorant with respect to either side of the world is not an educated man, however much special knowledge he may have of certain aspects of the world. This is said not merely because we are inclined to accept the old definition of an educated man—"One who knows something about everything, and everything about something"—but for

the practical reason that, unless a man has his *mind* cultivated on both sides, his *conduct* will of necessity be ruled on the one side or the other by mere prejudice or by mere authority, and cannot rise to the level of self-directed activity. His conduct may not be wrong, but it cannot be right in the sense of being consciously directed in the light of knowledge.

Relation of the two Elements.

Assuming, then, that our curriculum must be developed throughout on this dual basis, there arises the question, Which of the two sides is to determine the selection of studies? We cannot have two merely parallel series of lessons, for as the child to be educated is "one and indivisible," so must his education be. The two lines of thought must not be allowed to remain two parallel lines which never meet, however far produced. They must form a connected and related series, an interwoven and organic texture of knowledge. Logic seems to demand that we should choose the one or the other thread as the guiding one, and relate the other to that.

Perhaps we tend to make too much of logic in this matter, since our primary concern is not with any line of study, but with the living, growing child, who is not a logical abstraction, and who is not much under the sway of logical processes or considerations. We may lean to the humanistic or to the scientific side according as our own predilections incline us, and the relation which we establish between the two may not always be beyond cavil from the logical standpoint. We may let the one side predominate at one time, and the other at another time, as the pupil's interests may indicate. The most important practical rule seems to be to keep the dual aspect of the world and of education before our mind, and to make full use of whatever natural connection may arise between the material selected on the two sides. The connection may often be incidental rather than essential, but it should never be strained or artificial.

Preponderance of the Humanistic.

Possibly at the present day the tendency is to make too much of the naturalistic and scientific side of world-study, and to neglect the literary and humanistic. A great impetus in this direction was given by the appearance of Herbert Spencer's work on education, coming, as it did, at a time when interest in science was awaking to new strength. But while we may find much of value in this work as a treatment of scientific instruction, it does not by any means give us a scientific treatment of education. Of all the subjects which Herbert Spencer illuminated with his thought, education is perhaps the only one which he did not consider scientifically—that is, with a treatment which begins at the beginning and takes account of all the problems. The real beginning—the child as he is—had not then begun to attract the attention of educationists.

That "complete living" which education prepares for is not fully understood by any one who supposes a knowledge of *man* as revealed in literature and other humanistic studies to be less important than the knowledge of *things* which is attained through science. With due recognition of the great and growing importance of science in our common life, we cannot agree to subordinate to it the world of human thought and conduct; it is this that gives to scientific progress its real value and significance. The distinctively human thing about our life is that our environment is not merely material, but spiritual, including in the latter term all that is implied by the intellectual, moral, and social development of the individual and the race.

Instruction depends on the Child's previous Knowledge.

As soon as we approach the question of instruction in the Infant School, we are brought face to face with the task of finding out what our children already know. Without this preliminary, we cannot make sure of increasing their knowledge. We may, on the one hand, spend time in

telling them what they already know, or, on the other hand, we may waste time in telling them what they have no means of understanding. The apperception of the new, as we have seen, depends upon the presence of sufficient knowledge in the mind to form a basis for the reception of the new.

This principle will find application in every subject and in every lesson. So we find that in the instruction as well as in the physical care of the young, we are thrown back upon knowledge of the child for guidance in our treatment of him. The child, therefore, is not only to be considered in the general plan of school work, but also in every step of the method which we follow in carrying our general rules into practice.

Language and Literature our chief "Subject."

A very great part of the instruction work of the Infant School will centre round Language. It is the means by which the child will apprehend the instruction which we are to give him. It is the chief though not the only means by which he will express to us the knowledge which he has acquired, and in the expressing of it will make it his own possession. It is the medium of nearly all the humanistic culture which he will acquire. By it we shall give him most of the material which will exercise his imagination and his feelings. Language is by far the most educative instrument in our hands. Language and Literature will therefore form the chief subject in our curriculum.

"Literature" may sound to some ears as a very formidable subject to prescribe for the Infant School. Too often it has been regarded as a "subject" with which a pupil may begin to make some little acquaintance when he has reached the higher classes of the upper school, or perhaps not till he reaches what we may call the secondary stage of his education.

This view arises from the common error of regarding language only in its written form, and literature as something

which can be approached only after one has a fair mastery of reading and writing the mother tongue. In the Infant School we are forced to look on language in its primary form of oral speech—sounds to be uttered and understood; and if we take literature also in its original form—thought and feeling expressed orally, and not necessarily in big words—its terrors will quickly vanish away.

The Child's first Literature.

As a matter of fact, most children have made some acquaintance with literature before they come to school. The child's first literature, if his home is favourable to early education, is the Nursery Rhyme. Among our traditional nursery rhymes there are examples of many literary forms and devices in embryo. It is a serious mistake to suppose that the only language suited to our young pupils is in the form, "A cat sat on a mat," and the mistake is entirely due to our thinking of language as written or printed.

If our pupil comes from a home of an enlightened type, he is already familiar with many words which he will not be able to read and write for some years to come; and we should be unwise to ignore this fact, or to make his use of the spoken word wait on his power to deal with its written form. He is also quite familiar with such literary devices as rhythm and rhyme, refrain or repetition, dramatic quotation, rhetorical question, simile and metaphor, and other things whose names he may not meet with during his whole school life. We need not care for the names; he already knows the things, and he feels their value and their charm. If we now drop all this out of our use of language because he cannot understand it theoretically, we are making his education take a step backward instead of continuing it and widening it.

If our pupils come for the most part from homes of an unintellectual type, and are ignorant of the stores of our child literature, our first duty should be to try to make amends to them for a childhood defrauded of its rightful

inheritance, and to give them in school some of those pleasures of fancy which their homes have denied them.

Nursery Rhymes.

For the first year at least, or for as long as we can, we shall ignore primer and alphabet, and treat language as something to be spoken and listened to. Our language material will consist, in the first place, of a good selection of nursery rhymes, not forgetting those which are pure nonsense or doggerel; for children must laugh if they are real children, and they should find room for this exercise in school as well as out of it. Nothing which is good and natural should be excluded from school, if we can find room for it. Even in laughing there is room for the teacher to exercise her function of educating, for there are many objectionable ways of laughing which ought to be replaced by a more becoming and natural way.

Fairy Tales and Myths.

We shall next select a few of the best Fairy Tales we can find. There are some which appear as English folk-stories; for others we may go to Grimm and to Hans Andersen, avoiding those which are too long, or too gory, or too sad, or which for other reasons fall outside the first rank. There are so many of the best that we need not waste time on the second best, a principle which we should do well to act up to in every kind of literature.

Some of the old Nature Myths of the ancient Greeks and other primitive peoples we shall also find good material, as joining the human interest with the nature interest. A few well-known fables may be added, where the moral does not need to be stated, for any piece of literature which needs an added moral cannot be ranked among the best. Fables in general are not suited to young children, however. They usually deal with the baser side of human nature, or at least some aspect of it which is not the most stimulating. Their point of view is often beyond our appreciation

until we have developed the mild cynicism of mature years, and can treat faults with tolerant raillery or with gentle sarcasm—a power which is quite foreign to youth. One distinct objection to some of the best-known fables is that they make scapegoats of our humble friends the dumb animals, and lay upon them the opprobrium of faults and weaknesses which are purely human. There is an old proverb about giving a dog “a bad name” which may occur to us in this connection; we should not lead our children to think of even a donkey as being merely a conventional “ass.”

Poetry.

There are many poems which will be literary treasure trove. We do not want long poems, and we do not need whole poems. A few lines out of even a good poem may be as much as we can use with profit in the infant room. It is not the “children’s poems” or “poems for the young” which we have in mind at present. In the best writings of the best poets—writings which, as a whole, would be unintelligible to our pupils—we shall find here and there gems which are quite within their grasp. A beautiful thought expressed in simple and beautiful language—that is what we want, find it where we may. A few lines of this nature will throw a glamour of beauty over many a commonplace fact, and will sink into the memory and develop the taste. Only in this way can we form a standard of judgment for literature, and store the mind with noble ideas and words.

There is no better way of giving a varied training to the young mind than by the copious supply of such gems of thought and diction. To familiarize a child with noble and worthy thoughts is a great matter, and it can be done thus more easily and pleasantly than by any more direct or didactic method. To familiarize him with dignity and felicity of language is of hardly less value, and this benefit also follows. Very young children who have the advantage of thus making the acquaintance of the best forms of expression will often show a quite surprising preference

for good as compared with indifferent language, and this without knowing a single principle of literary judgment. It is simply due to a feeling of the beauty of beautiful language. This feeling can never be developed by the study of rules or the analysis of examples. Appreciation learned by rule is a dead and soulless thing as compared with appreciation which is the outcome of the feeling for beauty awakened and developed by the daily hearing of what is highest and best in our rich stores of literary material.

Story-telling.

When literature exists in its original form of the spoken word, the all-important literary person is not, of course, the writer of books, for books do not exist. It is the teller of tales, or the reciter of ballads, or the singer of songs. So it must be in the primitive world of the Infant School, where we deal with minds not very different in development from those of the primitive peoples who originated the forms of literature in which the little ones delight. The teacher must be the "*saga-man*," or teller of tales, and the "*scald*," or minstrel or bard.

The art of story-telling is not a universal accomplishment, and though it seems to be a natural endowment of some persons, it is not an easy art to acquire. Much can be done by study and practice, however, as with all forms of literary expression. If we were devising a syllabus of Examination Subjects for teachers of infants we should incline to make the art of story-telling a "failing subject," and to award to it the greatest number of marks. Without at least a fair proficiency in the art, we should allow no teacher to take charge of an Infant School or class. The examination we should set would be both written and oral, but chiefly oral.

Style in telling.

In telling a story to children one must have a story which is *worth telling*. But this is not all: the story must be *well told*, and this includes a great many points. The

language is of importance. The words must be well chosen, and should suit the theme, whether grave or gay. The sentences must march with a certain grace and dignity, without formality or affectation, but equally without looseness or slovenliness. They must not involve themselves into heterogeneous tangles linked together by various grades of "who's" and "which's." Nor must they, on the other hand, degenerate into an unorganized democracy of independent clauses, punctuated with "and's" or "and then's" or "and so's." The type of sentence must be adapted to the movement of the tale, keeping the *legato* and the *staccato* each in its proper place, and making them subservient to the desired effect.

Literary Structure.

The structure of the story, or the order of presentation of its parts and incidents, must be studied, for even in old favourites there is a choice left the teller as to details. The "short story" of our magazine literature is that which novelists find the most difficult to compose; and all the stories of the Infant School must be "short stories." There must be natural sequence of ideas, if the story is to be easily followed. There must be conciseness and omission of all superfluous detail, if it is not to become wearisome. Yet there must be abundant detail, for therein lie the points of interest of the tale; the summary of a story has little or no interest. There must be plenty of action and dramatic movement in the plot, *doing* rather than *saying* by the persons, and direct quotation rather than paraphrase of what they do say. There should be, if possible, repetition or refrain of some characteristic phrase, which gives both individuality and unity to the story: its use will be best appreciated, perhaps, if we imagine some one telling the story of the "Three Bears" without the repeated phrases which give the tale so much of its flavour. There should be the element of suspense, and there must be natural resolution of this in the climax.

All these and other literary artifices are needed for the constructing or the telling of a simple story; and they must be so blended that the only feeling impressed on the listener is that the *story* is a good one. It is the story, and not the style, which should impress the listener. Anything less than the "art which conceals art" will leave a feeling of something lacking—some want of clearness, or of interest, or of unity—something short of complete pleasure or satisfaction.

Stories not to be read.

The story should not be read. Reading hampers the direct contact of mind with mind, and the personality of the reader is veiled by that of the writer. After a little while, however, stories should be read to the children with a distinct purpose in view—that of leading them to realize the value of the power of reading, and the treasures which are to be found in books. This is really our only excuse for teaching children to read, and unless they have felt the benefits which reading will bring them, we need not expect their intelligent co-operation in learning the art. But in the meantime we are dealing with the very earliest stage of school life, when reading has not yet become a practical question.

Uses of the Story.

The Infant School stories are not intended merely to give pleasure to the pupils. The teacher has a further end in view. The stories are sure to be pleasant if they are rightly chosen and well told, for pleasure is the natural accompaniment of all action, bodily or mental, which is suited to our capacities and needs. The pleasure which the pupils take in the stories is an indication that their minds are being suitably exercised, and are therefore being educated. School work need not be, and should not be, unpleasant; and if it is unpleasant, there is more than a probability that it is unsuitable, and therefore not educative. But pleasure is not the end or aim of school work, be it story-telling or anything else. That aim is the development

and growth of the powers of the child, through the exercise provided.

Acquisition of Language.

The healthful exercise of the imagination, which is the chief source of pleasure in the fairy tale, is only one of the aims which the teacher has in view. There are other forms of mental exercise which she will group round the favourite tales. In the first place, there is the training in the use of language. Our school traditions make us regard the training of the imagination as somewhat subsidiary, though perhaps we are not quite wise in so doing. But we have a preference, even if it be only a prejudice, in favour of something more directly and practically valuable, and that also we shall find best associated with the fairy tale—the study of the mother tongue.

The teacher's language should be always fully up to, but not actually beyond, the children's power of full comprehension. "Talking down" to children is less necessary than we are apt to assume; and when not absolutely necessary, it is very objectionable. The story must accordingly be told in language which, if not marked by dignity, is at least a model of propriety, and free from unnecessary colloquialisms. By this means the pupils acquire a familiarity with what we may call, without defining it, good English; and this unconsciously develops their ideal of style in speaking, in writing by-and-by, and even in thinking, for we do most of our thinking in words.

Exercise of Memory.

When a story is to be retold, there should be as little change as possible from the words formerly used. If it has been told once or twice in the same words, and the teacher then alters her phrases, she will see that the children are somewhat puzzled and disappointed. This is most marked with the youngest children, and it indicates that the former phrases have been remembered, though they could not, perhaps, be reproduced, by the children. But the mere

remembering and recognizing is a long step towards the power of reproduction. This is what gives its force and value to repetition of the story in identical words. To give the same story in different words is a mental exercise of a different type, and belongs to a slightly more advanced stage.

Reproduction of the Story.

After the *listening* exercise has had time to do its work, the children are somewhat prepared to begin the next form of exercise based upon the story. This is the *telling* of it themselves in the teacher's words. At first each child contributes only a sentence or two, and frequent assistance is needed. The more closely the teacher's model is followed the better—in words, in tones, and even in gestures. It is a memory exercise, and differs essentially from either paraphrase or explanation. The aim is merely to secure that the child's memory is being stored with correct ways of expressing familiar and pleasant ideas, thereby increasing his command of the mother tongue. The pupil's variations on the language and his own choice of words will come soon, and his choice will then be all the better for the present attempt to reproduce accurately.

"Talk" about the Story.

A separate form of exercise—separate as to aim and method, though possibly taken at intervals from the beginning—is the "talk" about the story. In this exercise the children should do most of the speaking, and some, at least, of the questioning. The aim in this exercise should be twofold—first, to ensure comprehension of the story itself, and second, to secure plenty of free and unrestrained speech from the children.

As to the first, the teacher will find out what is known and what is unknown to the pupils about the persons, actions, and things which are mentioned in the story, and she will help to fill up the gaps in their knowledge. There is practically no limit to the possible scope of such a talk, but

care must be taken to keep it relevant. As to the second point, common errors of speech will reveal themselves in abundance. These must be touched on with a very light hand at first, however, and many errors must be allowed to pass unnoticed, especially in the case of shy and nervous pupils, in order to avoid any check to spontaneity, which is of the essence of the work. Every care must be taken to secure entire frankness and fearlessness. Otherwise that co-operation which is necessary in all education becomes impossible, and the best influence in school training may be missed for many a day. For the same reason, such corrections as may be necessary should take the form of the advice, "Say this," rather than the reproof, "Don't say that."

A Link with the Home.

The story is a link between the school and the home life of the child whose home has been what it ought to be, and a welcome novelty in the life of those whose homes are of a different type. It is a means of making the child feel at home in his new surroundings, and of giving pleasant associations to these at a very important stage. It presents the teacher in a most favourable light, as being a story-teller of even wider resources than "mother" herself. It provides an intellectual atmosphere saturated with good forms of speech as well as with pleasant fancies. In the subsidiary "talks," it enables the teacher to know the pupil, to see what he knows and what he does not yet know, and what his experiences of life and his views of things in general really amount to, and shows her what faults in speech will require to be watched and remedied. It supplies the pupil with new forms of expression for the vague ideas which already exist in some form in his mind. It supplies him with new ideas, and with appropriate words for expressing these. It gives him practice in speaking with ease, frankness, and propriety, in a tongue which may be foreign to him; for it must be remembered that English, as it should be spoken in school, is really a foreign tongue to

many of our pupils. The advice which the pupil will receive by-and-by, to write as he speaks, will be of no help to him in writing good English unless he has been taught to speak the language aright at the age when this is possible.

A Centre for other Instruction.

The story given each day forms an excellent centre round which to group other exercises. There should always be some real connection between the work of one period of the day and that of other periods; it is false method to follow the work of one period by some new form of activity unrelated to the former. This method of work leads to want of unity in the knowledge given, and to scrappiness in results. It is often observed, for example, in older classes, that children who spell correctly when writing a passage from dictation, or even a composition exercise, make blunders in the most common words in written answers to some ordinary subject of school study. The reason is that the idea of spelling is a separate sphere of thought, and has not been linked with the statement of matters of fact in their own words. In the same way, children's ideas of number or of form or of conduct are apt to form separate spheres, and to stand apart from one another. Where this is the case, the ideas gained in one lesson do not aid or reinforce those gained in a lesson on a different subject.

We must aim at the unifying of our pupils' knowledge by having an evident connection between one lesson and another, whatever be the subject. Ideas of conduct taken from the story may be referred to in connection with real conduct in the school or the playground. The things mentioned or explained in our "talk" or in the story may form the subjects of our counting, or our drawing, or our modelling lesson. Even the games which are played may have some connection with the more formal work of the classroom. No part of the day's work can be allowed to stand by itself, as if the child were a different personality at the different hours of the day.

Relation of Story and Object Lesson.

In order to maintain this connectedness in her work, the teacher has at each stage of the course to decide whether her series of stories shall form the centre of relation for her lessons on things or objects, or whether the object lessons shall be allowed to suggest the series of stories. There is a good deal to be said in favour of either plan, and nothing very serious to be advanced by way of objection. The really objectionable arrangement is to have them without any connection, or without one which is both simple and obvious. The children should feel that the one lesson is a natural sequence to the other, and grows out of it, and then the ideas of the one period will not be quite forgotten during the next.

The Object Lesson.

When we come to speak, in the next place, of the lessons on things, or the so-called "object lesson," we are on more familiar ground. The object lesson has been much treated of in books on teaching in general, and in books specially devoted to object lessons. The aim of such teaching is a commonplace, and sufficiently well known to every teacher. That aim is usually put as the acquisition of knowledge, or, with more show of erudition, as the "cultivation of the faculties," or the "training of the senses."

"Training the Senses."

As to this last, it can be accepted only under limitations. The senses of touch and sight are best cultivated by hand-work, not by object lessons, while the sense of hearing is certainly better cultivated by the story lesson. Smell and taste, again, we do not usually take much account of in school, except incidentally in lessons on objects whose special qualities appeal to these senses; on the whole, we may say that the training of these two senses is mostly left to the home experiences of the children. In the object lesson the senses of sight and hearing do, of course, find

exercise, and occasionally that of touch, but none of them to such an extent as to make the object lesson the best means of training the senses.

“ Training the Faculties.”

The “ training of the faculties ” as an aim for the object lesson may also require a word of discussion. Without committing ourselves entirely to the theory of Herbart that there are no faculties—that the mind does not act, but the ideas which are within it exercise mutual attractions and repulsions—we may yet see that in our educational theories we have made too much of the faculties and their supposed order of development. Sensation, perception, memory, judgment, reason, imagination, and the others—if there are others—do not arise and develop in order one after another, as some of our text-books might lead us to suppose. There is no act of knowledge which does not embrace the action of all the faculties ; for the action of the faculties is the action of the mind as a whole, or, if we are Herbartians, we may express it as the action of the apperception masses in the mind. We prefer to use the more familiar words, and call it the action of the mind—not because this explains it any better, for the phenomenon is quite unique and defies explanation. There is nothing to which we can liken mental action. All so-called explanations are merely attempts to use words which will picture what is going on, and it matters little what form of words we use, so long as they do not suggest something at variance with the real phenomenon. But this is precisely the objection to speaking of faculties. We do not know how the mind acts, but we can easily convince ourselves that it does *not* act in the way which the “ faculty psychology ” pictures out ; all that is needed for this is simply to watch what goes on in our own minds. Abstractions are useful and even indispensable as aids to thought, but we must remember that they are mere counters or symbols. When we forget this, and mistake them for realities, they become obstructions.

“Cultivating the Observation.”

The most common of those abstractions which we have personified, and set up to rule over us, is Observation. Many of us have been taught, in writing out notes of a lesson on any natural object, to set forth this as our aim, “To cultivate the Observation of the pupils.” We assumed that there is a faculty of observing things in general, and that this general faculty could be cultivated by observing this and that particular object. As a matter of fact we do not observe in this general and impartial way at all; we observe things according to the classes in which they fall, and the way in which these classes of things appeal to us.

The mind is not a photographic camera, and the eye selects what it shall look at. To “keep one’s eyes open” means shutting them to things which are outside the chosen sphere of observation, and not simply a vacant stare which sees all things alike. All attention means concentration, or shutting our eyes to what we are not intent upon observing.

What Observation Implies.

This shutting of the eyes is a power which children need to learn. We cannot teach them it directly, for to tell them *not* to look at a certain aspect of a thing is simply to call their attention to what we wish them to neglect. We can only proceed indirectly, by calling their attention to what we wish them to notice. In this one respect observation *can* be trained. We can develop the habit of concentration of attention, and neglect of the insignificant, or of what is not significant for the present purpose.

Observation, when trained to its highest pitch, is never a universal photographic function which embraces the whole visible sphere. The deeper it goes, the narrower it becomes by concentration. It is not the trained observation of the specialist, however, which we wish to develop at school, but the wider observation of the man of liberal education. Yet even this cannot be done by

simply "keeping the eyes open," nor will observation of one class of facts develop a "faculty of observation" which will act equally upon all classes of facts. What we really aim at can only be attained by making our pupils familiar with objects *of a wide variety of classes*, at the same time training them in the habit of sustained attention, and, above all, keeping well before their minds the connection of objects with one another. In this way alone can we make sure that each object will suggest a wide circle of relations, and will thus aid in the observation of objects not limited to its own special class. And to do all this is not to train any "faculty of observation," but to *impart knowledge* of a wide variety of things, and thus to develop a wide variety of interests in the mind of the pupil.

The real Aim of the Object Lesson.

In view of much that has been said and written about the training of the observation, it is well to be clear regarding this point, that the aim of each lesson is simply to give *knowledge about the particular object of study*, including, of course, its relations with other objects—for the knowledge of anything is really a knowledge of its relations—and not to cultivate any faculty of observing things in general.

A lesson on a postage stamp, for instance, will not make a boy a better observer of butterflies; but it ought to increase his knowledge of postage stamps and his interest in them, either from the stamp collector's point of view, or from the side of its history or its uses in our postal system. A lesson on an apple, again, will not be of any service in training a boy to observe the clouds, or the feet of domestic animals; but it should give such knowledge as will help to awaken an interest in edible fruits, or in the development of fruit from blossom, according to the line of study followed out in the class. The intelligent study of the object and its relations is a sufficient aim for any object lesson, and none other need be professed or looked for.

Examining an Object.

Since the power of seeing depends so much upon previous knowledge, it is evident that we must not expect too much from the children's individual and personal examination of the object of our lesson, whatever it be. To any observer, an object presents ideas only of the class with which he is already more or less familiar. Most of us, on examining an apple, would see the point where the stalk had been attached; and the opposite point where the blossom had fallen off; we should also see which side of the apple had been turned towards the light, and notice any want of symmetry due to the pressure of another apple or of a branch, or to the want of light. All these obvious things would be invisible to our pupils, unless they had been acquainted with the fruit as a growing thing; most town children would see none of them.

Halve the apple, and let the children examine it again. They know the core as being useless for eating, the main purpose for which apples exist. The seeds they may know by the name of pips, but they may not know that those pips are seeds, and they may not even know what a seed is. The parts of the seeds are still less known, and children quite familiar with apple pips may have failed to notice that each is composed of several parts.

“Looking.”

It is hard for a teacher who knows all about apples—if any one does—to realize how many of those qualities which are so clearly visible to her are really invisible to her pupils, even after prolonged “looking.” The fact is that we must often tell a child what to look for, or at least put him on its track, before he can see it. It is there, plain enough to those eyes which can see it; but seeing is not a matter of eyes alone. When the fact has once been seen, it is not only visible afterwards, but the seeing of it is a help for the same eyes to see other features of a kindred character.

Knowledge grows by the attraction of similar ideas, as Herbart has put it, and the more we already know the more can we learn from anything which is before us—or the more of what is potentially visible becomes actually visible to us. To the young child most things are only potentially visible; he has not the antecedent knowledge required to call them into actual sight. The things which we at first help him to see will then help him to see other similar things for himself. The differences we show him between similar things will help him to see other differences between things apparently similar. To this extent we may say that we are training the observation; but we are doing so by the increase of knowledge, as we have said. Knowledge, and the interests created by knowledge, are the only security we can have for the increase of knowledge.

The Scope of our Object Lessons.

As regards the scope of our object lessons or “real” instruction, we must be guided not by what we think will develop observation in the child, but by what we think a child *ought to know*. What do we wish to be the scope of his knowledge and his consequent interests?

We cannot put our aim in this matter any lower than a knowledge of the world in which the child is to live and act. He must have an intelligent interest in all this, so far as we can develop it. There is no sphere of nature or of human life of which we would deliberately have him ignorant, excepting, of course, that which is essentially evil, and which ought not to exist in the world at all. With this reservation, our field is the world. We are not to try to conquer it all at once, however. In order to see things clearly it is necessary for us to see them singly or in ordered groups.

Some one has said that geography, like charity, should begin at home. This is true not only of geography as a special science, but of any study of the world. Our lessons on things must begin at home. And there is a further

indication as to the selection for the young child—the home objects selected should be such as will best satisfy the present interests of the child. The daily surroundings of the child and his natural interests, these will dictate the best course of object lessons.

Principles of Selection.

These two principles of choice at once lead us to see that a difference of selection will be necessary in different schools. Town schools and country schools form two distinct classes in this matter, and in addition there are individual differences among schools in each class which will call for recognition. The school and its contents and immediate surroundings; the home and the features of domestic life which are common to most of the homes represented in school; the neighbourhood out of doors, whether this be the fields with their procession of sights and sounds as the seasons roll by, or the busy streets with their traffic and their lines of shops; and over all the sky, with its changes of sunrise, mid-day, and evening, sunshine and clouds, rain and snow,—all these and many other things lie at our doors.

Use of the Nearest.

It is only by laying hold of the common objects of daily experience, and talking about them, that we can make use of the “apperception masses” which already exist in our pupils’ minds; and we must make use of these if we are to increase knowledge surely and with facility. There is no need to go to the tropics or the frozen zone for teaching material. Such material is spread all round us, and the nearest is ever the most educative. Only after the familiar is well known can the distant become known in any true sense. The Wise Man has written: “Wisdom is before him that hath understanding; but the eyes of a fool are in the ends of the earth.” So, if we are wise, we shall not go to the “ends of the earth” for whales and tigers—at least

not until we have “worked our passage” to them through the commonplace but no less wonderful things at our doors.

Natural Interests to be considered.

We have already mentioned that the lessons given to any class should deal with the kind of objects in which children at their age, and living in their surroundings, feel a natural and spontaneous interest. What their natural interests are cannot be determined without that study of the children which is necessary in every department of school work. We shall teach them many things in which, but for our teaching, they would never take any interest; but we must always begin with things of which they already know enough to create at least some interest in them.

This rule applies to aspects of things as well as to the objects themselves. Clouds may not be of any interest to a child, but rain certainly is, if it has been falling on him as he came to school. When our talk or lesson has once made clear to him the relation between the rain and the clouds, the cloudy sky comes also to have an interest for him.

A lesson on seeds may be as dry to a boy as the seeds themselves. He has, however, an instinct for doing things, and we may secure his interest in seeds if we begin by letting him plant some in a flower-pot and tend and watch them. When the seeds begin to sprout, the whole subject of seeds and plant growth is seen by him in a new light. He is then, but not perhaps till then, able and willing to receive the simple lessons on seeds which we had in our mind when we set him to plant those seeds.

At the earliest stage we must recognize that the child's natural interest lies in action; things which are of interest to a more scientific cast of mind do not appeal to him. Men and their work form an element of perennial interest, and for our present purpose they may be regarded as “objects,” rather than persons; they are part of that “nature” of which the knowledge is now regarded with so much favour

in schools. The ordinary labourer in the fields or on the street is as much a “natural” object for the child as are the plants or the birds or the heavenly bodies. The humbler term “nature,” like the more dignified one “environment,” is entirely relative to the person concerned.

Lessons to form Series.

Another point to note is that every lesson should be one of a series. It must start from somewhere, and must lead somewhere; it must never stand alone. Of the principles on which our series is constructed the pupil has no knowledge; it represents a line of advance carefully planned out by the teacher, every lesson being carefully designed to form a definite step which could not be omitted or placed elsewhere without her modifying other parts of the series to suit the change. The sum of the object lessons is not to be like a heap of bricks thrown on the ground, but like the same bricks built into an edifice on a definite plan, every brick being bonded to the others—resting upon those below, and supporting those above.

Connection between Series.

While every lesson should be part of a series, every series should be part of a whole tissue of knowledge. Our plant lessons and our weather lessons and the rest should not lie apart like independent parallel straight lines. They must be related to each other, and interwoven with one another. A lesson in one series must call up facts already learned in a lesson in another series which may alternate with it, and those crossing and recrossing threads of information must weave themselves into a broad web of real knowledge. To the child they are merely talks about this thing and that; to the teacher each lesson has its carefully-planned relations with other lessons.

The Seasons as a Centre.

We have already spoken of the need for “concentration” in our lesson schemes—of some central idea in the teacher’s

mind to which all parts of the instruction will be definitely related, and which will determine the relation of one part to another, in order that the sum of our instruction may form an organic system of knowledge, and not a series of mutually exclusive "subjects." We also indicated the difficulty of finding a bond between the naturalistic and the humanistic sides of education which will have any relevance at the Infant School stage of thought, or which may be used without leading to an artificial or strained system of relations. It is found to be a convenient working arrangement that at one time the one side should be the determining influence, and at another time the other side. In the Infant School there are distinct advantages in allowing the nature lessons to influence the selection of stories.

For the nature series we shall find the *course of the seasons* a very useful thread on which to string our lessons. Not only do much of the child's surroundings change with the seasons, but his own activities, his games and the like, change in a similar way. Again, the supply of material for the lessons which fall within the realm of nature study is itself dependent upon the season, and this dependence is part of the facts which we should teach. This applies to both the animal and the vegetable kingdom, so far as most of our lesson material is concerned. We shall probably find, therefore, that the course of the seasons is the simplest and the most natural clue to guide us in arranging our course of object lessons or nature lessons.

We may then allow the nature lesson for the day to suggest the story lesson. A lesson on peas or beans as seeds will give us a point of connection with "Jack and the Beanstalk," or with Hans Andersen's "Five Green Peas." An animal lesson may be such as to give us a hint for choosing "The Ugly Duckling," or "The Frog Prince"—the latter story being a specially useful one where teacher or pupils have fallen into the error of thinking of frogs as "nasty" or "horrible."

Object Lesson related to other Work.

It is not only between the two sides of our oral instruction that such relatedness must be established. Our drawing lessons, modelling lessons, number lessons, and, later, our writing lessons, must all be connected by the same family ties. If peas or beans have been the material for the oral lesson, they may very well form the material for our number lesson or our drawing lesson also. Since our talk has brought them into prominence, they will form the best material that we could find, for their use ensures a certain connectedness in the pupils' thinking, fitting in with the thought-echoes from the preceding period, and at least avoiding the introduction of anything so new as to be distracting.

There are practical limits, of course, to the application of this principle, and we may often fail to see how we can carry it out with advantage. In that case we shall not attempt to do so; the main thing for us in practice is to bear in mind the end for which we follow out the principle, and to avoid anything which would work against that end. With this proviso, we should allow no principle, however excellent, so to dominate our practice as to make it mechanical and unprofitable, and thereby to lose the very benefits which the principle is designed to secure. If the "concentration" idea is fairly worked out, it has advantages which will become more apparent as the teacher becomes more familiar with it, and more expert in taking advantage of its suggestions. On the lowest ground it is a rational system, and any rational system is better than the absence of system.

For the full working out of the concentration idea as applied to the whole curriculum of the school, teachers should consult the recent writings of educationists of the Herbartian school, both at home and in America and Germany. None of the schemes will be found above criticism, but the act of criticizing will of itself help to formulate the teacher's own ideas.

Notes of Oral Lessons.

After the question of *what* to teach, in our series of oral lessons, there comes the question, *how* should we teach it? Having arranged our scheme of lessons, we must consider our "notes" for these lessons; for it hardly needs to be mentioned that all lessons must be more or less fully prepared beforehand in the teacher's mind, and, better still, not only there, but also on paper, for reference and record.

The preparation of "Notes of Lessons" has received much attention from writers on Method, and from those who have had the training of young teachers, and it has been elevated into something like a science, with laws and canons of its own, and with traditional forms and formulæ for its expression. The intention of all this is very good, and, once more, any rational system is better than no system. But the result has been what the result always is when form receives undue attention—the living art has been cramped and confined, and the form has become a hindrance to the reality. The traditional "aim," "introduction," "heads," "matter," "method," and the rest of the formulæ, have hampered the oral teaching of many a young teacher whose natural insight would have been a better guide than text-book laws and theories. On the other hand, those laws, rigid as they are, have, no doubt, done much to give the idea of system to those who would otherwise perhaps have done less effective work.

The "Aim."

As to the "aim," we have already indicated what this must be in all object teaching or nature teaching. It always must be to increase the children's present knowledge. This will include the calling up and arranging of the ideas which the pupils already possess regarding the subject of the lesson, and adding to these such additional ideas as we may see to be advisable and possible at their present stage. Our aim will never be to "tell all about" any object, for there are

so many sides to everything that we must confine our teaching to some particular aspect of the thing under study. By so doing we shall make our teaching all the more definite, and leave with the class a more correct idea, if less comprehensive, than we should do if we tried to tell all that we know—which is always impossible.

If our lesson is on the pea as a seed, there is not the least need for our going into the culinary uses of it, which have no direct relation with this lesson, and ought to come into one of a different series. The traditional line of object lessons was to deal with all the various aspects of the object, one after another, in a certain fixed order, usually ending with its “uses;” but the rational plan is to treat of such aspects alone as are pertinent to our aim in the lesson or series of lessons. And if our aim should include a study of the use of any familiar object, this will come more naturally at the beginning than at the end, for the use of a common thing is always better known than its structure, or its history, or any other aspect of it.

The “Introduction.”

The “introduction” of the typical lesson, as given in books of method which may still be in use, is apt to take the form of a conundrum, of which the desired answer, but by no means the only possible or even the best answer, is the *name* of the subject of lesson. It used to be a canon of the art that the teacher’s skill was shown by “eliciting” as much as possible from the children, and that to take the plain, common-sense plan of *telling* the class the subject of the proposed lesson was to be deficient in resource. Hence the class was started upon a game of guessing, instead of having their ideas concentrated upon the subject in view by the simple naming of that subject.

The “Matter” and “Method.”

Under a series of “heads” written in a separate column, the “matter” of the lesson was arranged, generally in the

comprehensive logical order of an encyclopædia, and without any attempt to follow the psychological order of taking first what is best known. Another parallel column set forth the "method," and usually contained the matter as well, or else was occupied with a few obvious and unnecessary directions such as "ask" or "tell." Sometimes it had an even more irrational form, being filled with the questions to be asked. This ignored the plain fact that after the first question no one can foresee what questions it may be necessary to ask, since each succeeding question will depend entirely on what answers have been given. "Illustrations" were often mentioned casually, as if an ornamental rather than a necessary part of the teaching. No space was ever given for the questions which the children would probably ask the teacher.

"Full Notes" impossible.

Notes of a lesson—even the "full notes" sometimes illogically demanded at teachers' examinations—can never resemble a report or a transcript of a lesson actually given. It is obvious also that "notes" can never be really "full." When a speaker prepares notes of a speech to be delivered, his "full notes" for half an hour's speaking may occupy a very small space on paper, and if printed would give a reader less information of the speech than the brief abstract of it which appears in the newspaper. The speaker merely jots down enough to ensure that he will not forget any of the "heads" which are essential to his argument, or any of the illustrations or "points" upon which he relies for convincing his hearers.

A speaker may, however, write out his speech in full, not for the purpose of reading it, but to ensure that the train of reasoning will be complete in his own mind, or that he may thus attain more complete mastery of the subject. The teacher has not this choice of method in her preparation. She cannot write out her lesson in full. Her lesson is not a lecture, to be given by her, and listened to by the

class; it is essentially a *conversation* between her and the class, of which as much as possible will be contributed by the class. While the subject of the conversation and the general trend of it can be determined beforehand by the teacher, the details of it cannot be so determined. Hence the teacher cannot prepare more than mere "notes" of the lesson.

The Essentials of Notes.

She will determine which aspects of the subject will be discussed, the order in which they shall be introduced by her, and the general conclusions which she means to establish. She will arrange carefully the illustrations to be used, and the references to facts previously learned or certain to be known by the children, and she will carefully note all points of special importance which must not be left to casual suggestion or memory.

More than this it is impossible for her to do if the pupils are to be left their due share in the lesson. More than this, therefore, it is a mistake to ask from any young teacher who is practising the preparation of lesson notes. For so simple an exercise as this, the "columnar structure" seems to be quite unnecessary; all the more so that this form is entirely unsuitable for many subjects for which notes of lessons are as necessary as they are for object lessons. When a lesson can be arranged in the form of parallel columns better than in any other, the columns should, of course, be used. Otherwise this form has no value.

The Order of Presentation.

As to the "heads" of a lesson, the order of presentation is one of the few things which we *can* determine before teaching, and this part of the notes should be carefully done. It may be well to remark in this connection that the order in which the heads of description of an object occur in a text-book is nearly always the wrong order for teaching purposes. The book order is the *logical*; the teaching order is always the *psychological*. The teacher

has to consider how the mind of the child will be most naturally led to a complete view of the subject, not how the complete view can be most concisely expressed in words intelligible to an adult mind. The order of treatment must depend entirely upon the state of the children's knowledge, and therefore if a lesson should be repeated—and this will often be the case—it will always be differently arranged on the second occasion; it will, indeed, be a different lesson from the first, though upon the same subject. To repeat a lesson in the same form is to assume that the class *learned nothing new* on the first occasion, or else it makes the second lesson a mere exercise in memory and not a real lesson in the sense of something being learned.

In planning out the notes at home, and in actually presenting the lesson in school, the most important thing to consider is the child. The learning, or apperceiving, or assimilating is to be done by him, and our object is to exhibit the subject in such a way that the child will receive the knowledge which we offer and will retain it for future use—for our aim in teaching is never ended with the mere learning of certain facts; these facts are to be laid hold of in such a way that they can be used. We are always to regard knowledge as a basis for action.

The preliminary Knowledge necessary.

Reverting now to the doctrine of Apperception, we may recall the fact that new ideas enter the mind only by the intervention of old ideas of a kindred type which are already there. If we read of or look at some new mechanical invention, and have no previous knowledge of such things, we are "none the wiser," as popular language expresses it. We may see the object, or we may understand every word which describes it, and yet we fail to receive a single new idea beyond the fact that some new machine has been made which we do not really know anything about. If we have a little previous knowledge or experience in the same line, we shall learn *something* from what we see. Our previous

ideas ensure the reception of a few of those which the sight of the machine offers to us. If we have a pretty full knowledge of the subject, every word of the description is eloquent to us, and every part of the machine is understood, if not at the first glance, at least after we have had time to trace the relations of its parts. We have received *all* the new ideas which the machine has to offer, and we have thereby largely increased the quantity and the further attractive power of our "machinery apperception-mass."

It is not enough that we should actually possess ideas of the required type; those ideas must be present in the consciousness at the time to ensure the reception of the new. In presenting new ideas to a class, we must often disentangle from their past experience, or from the competing ideas of their surroundings, the kindred ideas which they already possess, and so make sure by this preparation that their minds are ready furnished with the desired material.

Preparing the Class for the Lesson.

It will sometimes happen that our pupils are quite ignorant of some aspect of an object which we design to form the lesson for the day. There is no kindred idea in their minds to lay hold of the new ideas which we are to present. In such a case we must find some connecting link between the knowledge which they already possess and that which we are to offer. We make use of some idea which is a "mutual friend" to those within the mind and those without which we wish to enter it.

If, for example, we are to tell the story of "The Ugly Duckling," we must first make sure that our pupils know something about ducks, and ducklings, and swans; otherwise the story will be only partially intelligible, and many of the ideas in it will fail to find admission into their minds. And if we find that our pupils have no knowledge of those birds, we shall have to stop and give some preliminary information first. We may have to find out what birds they do know, and then, by means of pictures and otherwise, using

the ideas which are already in their minds, and adding to them by comparison, and contrast, and description, we shall secure admission into their minds for the ideas which are necessary regarding real ducks and swans. Only by such means as these can we make sure of their receiving all the finer ideas expressed in the story of the wonderful duckling which was no mere duckling after all.

The "Formal Steps."—(1) Preparation.

To put this generally, every lesson, or every group of lessons on the same subject, must begin with a definite "Preparation." And this preparation must not be an exercise of the obscure conundrum species, during which our pupils try to answer our questions, but wonder all the time why we ask them and what we are driving at. From the beginning they should see our aim clearly. We cannot do better than take them into our confidence at once, and tell them what the subject of our talk is to be. We shall then at once secure their interest and attention, and prevent their minds wandering off into side tracks of irrelevant thinking.

"I am going to tell you a story about a very wonderful duckling, but I wish to know first what you can tell me about ducks and other birds that swim on the water." Such is not the orthodox "Introduction" of our old "Notes of Lessons," but it is a kind of introduction which will secure the end we have in view—to prepare the minds of the class for the lesson which we design to give them. The facts about ducks and other water-fowl which are known to the children will be rapidly presented by one and another in the class, mistaken ideas will be corrected, blanks in knowledge will be filled up, old ideas recalled to mind, and every one will be in a state of expectant attention, ready to receive what we have to tell about the "wonderful duckling."

(2) Presentation.

After preparation comes "Presentation"—the actual telling of the story, or, in the case of an object lesson, the

actual examination or description of the object. One by one, in the order in which they can be most easily grasped, the new facts are presented to the children, and the new ideas flow into their minds.

There may be a little danger here in the use of the word "flow." Nothing leads so easily to blundering in our thinking as the use of metaphorical language in the description of mental phenomena, and unfortunately there is no other language which we can employ. One way of avoiding the worst pitfalls may be to use at least *two* metaphors instead of one to describe a mental action, and these two as divergent as possible in origin, so that the vagaries of each may neutralize those of the other, as two coupled hounds are less prone to follow wayward paths than the same two when free to wander each in its own way.

. Instead, then, of regarding the information which we give as a stream of ideas flowing into the pupil's mind, let us think of it as a meal which he is to receive not in a passive but in an active manner ; he is to lay hold of the food, masticate it, and swallow it. It is not such a process as the filling of an empty vessel by the passive reception of a constant stream of material. There are pauses and advances necessary, corresponding to the rhythm of bodily movements.

The "Law of Successive Clearness."

The ideas presented, then, must not appear in a continuous stream. We must make them up into convenient mouthfuls, so to speak, and allow time for the mastication and the swallowing of each before we proceed to offer the next. Each point in the story or lesson must be made clear, and time must be allowed for it to be laid hold of before the next is presented. A certain time must be allowed for the attention being concentrated upon each stage, and for the pause necessary to ensure the complete realization of the fact presented. This principle is sometimes named the "Law of Successive Clearness." There

is little value in the name, but it may be given here to emphasize the fact that clearness is required in each part in order that there may be clearness in the whole.

The Need for Reflection.

The mind cannot absorb and reflect at the same time. Some teachers are apt to keep up a rapid and continuous fire of questions or statements of fact during the whole course of a lesson. This is an error in tactics. The teacher's mind has no difficulty in covering the ground at racing speed and without a breathing space, for the course is familiar and the obstacles are known by heart. But this is not the way in which the teacher's mind covered the same ground for the *first* time, when it was all unfamiliar. The mind of the pupil is now going over that ground for the first time, and it is an immature mind besides; and so the children must set the pace for the teacher, not she for them. At each successive stage of the lesson we must allow them to pause for a longer or shorter time as may be necessary in order that they may see clearly where they are, and how they have come to that point; and only after this should we expect them to set forward for the next.

To hurry over a number of new points will only produce confusion and bewilderment. The device of rapid advance is often employed in order to maintain keen attention, but it defeats its own end; once the child has lost the thread of the lesson, he is apt to take no further interest in it, or, if he continues to attend, he may be forming all sorts of erroneous ideas. The maximum rate of safe advance can be learned only by actual experience, and will vary with the type of class and with the type of subject; and even with the same class and the same subject it will vary from one hour or from one day to another according to many circumstances. The actual rate must be determined by the pace of the slowest and not of the quickest children, as the marching speed of troops is limited by what the slowest can perform. Otherwise advance in a compact

mass is impossible, and any class will become demoralized by the presence of stragglers in the rear.

The next Requisite—

Our aim up to this stage has been to secure that the new information shall be bonded to the former knowledge of the pupil, and shall be clearly grasped step by step so as to form an intelligible body of fact—or of fancy, in the case of a story lesson. A further step in method is required in order that this body of knowledge may be firmly fitted into and connected with the growing mass of ideas in the mind. This type of connection is impossible until the new has been firmly grasped as a complete thing in itself.

(3) *Association.*

We have now, therefore, to contemplate the new lesson as a whole, and compare it with other similar lessons already given, or with other groups of ideas or bodies of knowledge in the mind, in order that the bearing of this new information as a whole may be made clear. If we think of the preceding step, "Presentation," as the bonding of a brick of knowledge to those below it by placing it firm and true upon them, we may compare the next step—"Association," as it is often called—to a bonding of the same brick to the others beside it in a lateral direction, so that it may have a horizontal as well as a vertical unity with the other elements which build up the whole structure of knowledge.

"Association" may occasionally be used in the course of the "Presentation" of the lesson, during the pauses already mentioned, so far as the several stages or parts of the lesson are separate units in themselves; but the complete association or comparison can be made only after the whole lesson is learned. Too much comparison or association at any intermediate stage is apt to lead to diffusion of thought instead of concentration, and proves a hindrance to clearness in learning, which is the

essential thing at that stage. At the end of the lesson, however, comparison is necessary to ensure that the whole has been grasped in such a way that it can be made use of. It must be seen in its relations to other facts, or it will lie in the memory as so much lumber, ready to be forgotten at the earliest opportunity. It is the unrelated facts which we memorize that are the first to be forgotten, and the most difficult to recall.

(4) *Formulation.*

Knowledge of a fact is useful only to the extent to which it can at least be compared with other facts. Its availability for use often depends upon the form of words or of pictorial ideas in which it is presented to our minds. We often have vague ideas which we can make little or no use of until we may come at random upon some expression which we see at once embodies our thought; and we can then not only hold it more clearly before our own minds, but we can also make use of it in speech or in writing, or in more exact thinking.

The next step, therefore, in the complete teaching of any definite lesson is the gathering up of the essence of it into some compact and memorable form. This "Formulation," as the Herbartian school names it, may consist, in the case of a science lesson, in putting the relation of the new facts into the form of a general law. In an arithmetical lesson it will be the formulation of the "rule," based on the problems worked out. In the case of a story lesson, it may very well take the form of learning some verse of good poetry which embodies in worthy and simple language the leading idea of the tale; it must not be the traditional "moral," for, as the lesson has been a literary treat, it would be an absurd anti-climax to descend to a dry maxim without any literary grace to recommend it. The formulation should always be of the nature of a climax, and easily memorable, so as to be readily available for future use.

Limits and Types of Formulation.

“Formulation” is a step in method which is of less importance in the Infant School than in the higher stages of education. In a large number of cases the infant lesson is so short and so simple that no formulation is needed. Over-formulation is always a danger. We must not think of the lesson as existing only for the purpose of leading up to the formula in which it is finally embodied. It is better to look upon the formulation as always subsidiary—not merely an ornamental finish, certainly, but still only making more clear and more portable for the mind that which has been learned in the lesson. It is not something added to the lesson, but only a shorter way of saying what has been said already.

Many types of formulation are quite unsuited to the Infant School. The pupils are at an age when generalizations are neither interesting nor intelligible; it is the things themselves, and not the laws embodied in them, which appeal to young children. Rules, as in arithmetic, belong to a later period. In the story lessons, some of the gems of verse which have been mentioned may be learned by heart, for these have not only all the force of a “moral,” but are worth learning for their own sake, and can be better learned now than at any later time.

(5) Application.

After those four steps in method, or their equivalents, have been gone through, the lesson may be considered as having been “learned.” Something yet remains to be done before the knowledge thus acquired can be regarded as a real possession of the pupils. The knowledge must be actually used; there must be one more step—the “Application” of what has been learned. Knowledge which we have never put to any use cannot be regarded as truly ours. Knowledge becomes our own in a new sense when it has served as a basis of action. And only as a basis of

action does knowledge become a real influence in the conscious direction of conduct. Hence a lesson, according to Herbartian theory and common sense alike, is never completed until some practical work has been done by the pupil under the direction of the knowledge acquired, by which his grasp of that knowledge is at once tested and confirmed.

In the Infant School the number of forms which this "application" exercise may take are limited, but a teacher of ingenuity will find a pretty wide range of such exercises, especially if she realizes that systematic work of this kind is the best form of "insurance" against waste of time and effort in teaching.

Possible Forms of Application.—Composition.

Our pupils cannot complete their story lesson by writing out a summary of it in their own words, but they can, after a short time, do what is really the same form of exercise—they can *tell* the story to us. This is an exercise in language—in composition—as real and as useful as writing would be, and it is mere convention or prejudice which leads us to call the written exercise alone by the name of "composition." The oral composition exercise is admirably suited to our pupils, as we have already explained, and unless this form of exercise is systematically practised now so as to give accuracy and fluency of speech, some other teacher will lose much precious time in later years over this bugbear of composition.

Illustration.

Another form of "application" exercise, which many teachers can make very highly educative, is the drawing by the children of scenes or incidents in the story. The "illustration" of the story is done by the children themselves, absolutely unfettered by prescription, or suggestion, or example, in those child-symbols which seem, by a kind of universal convention among children, to represent men, women, children, trees, dogs, and so on. Curious conven-

tional marks they often are; more curious still when we recognize their essential identity with some forms of drawing which have for ages past been used by savage or uncivilized peoples.

Play-Drawing.

This exercise is not a drawing lesson. It is not drawing at all in the sense of trying to represent faithfully certain observed forms. It is rather a kind of visualized drama—a pictorial representation of the *actions* which are described in the story. Too much attention to form, and accuracy, and technique on the part of the child spoils the freedom and the vigour of the actions which he is attempting to represent. The *meaning* of his sketches is the important thing. The number of legs to a horse, or of fingers to a hand, is almost irrelevant. The aim in the exercise is that the child should visualize or see mentally the picture of the story, and should put down that picture on his drawing paper, or slate, or blackboard, in however rough and shorthand a method of execution.

Objections to it considered.

There are teachers under whom this form of exercise is foredoomed to failure. Their pupils have lost their spontaneity in "scribbling," and will not try to do at all what they cannot do according to the teacher's rule or example. There are also teachers who would object on principle to any such exercise, as endangering the possibility of securing accuracy in the drawing lessons by-and-by.

There may, indeed, be some apparent inconsistency in setting a child to jot down his conception of a story in his own scribbly fashion in the "picture-writing" of childhood at one time, and then setting him to study and to draw the exact proportions of a simple leaf. The difficulty of reconciling the two exercises may appear an impossibility; as a matter of fact and actual experience, there is no difficulty or danger in the case. The fluency gained in the "play-drawing" helps in the formal drawing, while the

accuracy gained in the latter and in other school work, such as writing, improves the drawing in the former by unconscious influence.

There is enough of true education in the play-exercise to warrant us in allowing it a fair and full trial, or at least to consider it carefully in the light of child-nature, and not merely in relation to the "subject" of drawing. The play exercise is more educative than our regular drawing, for it looks directly at the end—the embodiment of a meaning—and not at the means—the technique and the manner of representation. But the real case for the introduction of this free drawing is that it is a spontaneous exercise, done by the child as he likes to do it, and because he likes to do it; and if we realize what this means for education, we shall not hastily cast aside anything which helps to find scope in school for such activities.

Other Forms of Application.

In connection with the nature or object lessons, there are also forms of application which are available for our use. There is, as has been mentioned, the use of language—statements of fact made by the pupils, and at a somewhat later stage written or printed by the teacher on the black-board, to be again read by the class as a *reading* exercise. Various forms of drawing, mostly with the brush or with chalk, may be used to express the *forms* of things studied, or of parts of them. Such drawing will, of course, represent surfaces, and not be mere outlines: the outline is an abstraction from the surface, as the surface itself is an abstraction from the real solid thing.

The modelling exercise is another form of "application" which may follow upon the object lesson. Modelling is a more difficult exercise as far as manipulation is concerned, but it is easier in the sense that it represents the object more truly and with less abstraction. The whole form is represented, and not the mere projection of it upon a flat surface. Nothing is wanting but the natural colour, and

with young children it may sometimes be advisable to allow them to colour their models when dry.

Application as a Bond between "Subjects."

As regards the work lessons, or manual occupations, following the oral lessons, the teacher may take it as a hopeful sign if she finds her pupils looking upon the two as being parts of one lesson, rather than as two distinct lessons in different "subjects." It is a step in the right direction—that of unity of work and continuity of thought—if we can get rid of the conventional idea that a lesson is something which must be begun and ended in the twenty minutes or so which our time-table assigns to it. A lesson, in this more extended view, may run through most of the work periods of a day, in talk and in picture and in active handwork; it may continue in varying phases for several days. There may be one underlying idea running through the work of half a dozen or more lesson periods, and yet those periods may present as great a variety of activity and of interest as if the work of each period were distinct and unrelated. The cumulative effect on mental development—the growth of knowledge and of the power to use it—is vastly greater when the work is so planned that the gains of one period enrich the work of the next, however much that work may vary in form.

The Use of the "Object."

As far as possible all nature lessons should be *object* lessons. The actual thing, when it is obtainable and suitable for use in the school, should be before the class. Not only should it be present, but each member of the class should have an opportunity of examining it in the fashion of childhood, by hand and eye together. It is futile to place an object on the table and expect that the children four or five rows back will be able to observe its details. In such a case the "object" merely yields a vague general impression, and is worth no more, perhaps less, than a

picture or a diagram. The latter would often be preferable, both on account of its large size and of its making important details prominent by a little judicious selection and exaggeration. It is often advantageous to have object and diagram before the class side by side.

In lessons on common leaves, flowers, and plants, as also on many common substances, a specimen can be put into the hands of each child. This aids impressive as well as clear and definite teaching. It gives to class work that individual interest and attention which is characteristic of a talk with one pupil. An object in the pupil's own hands is a very different thing from an object in the teacher's hands, both as regards interest and as regards the amount of information which it will afford. At the same time we must not expect that the boy will see much in the object till the teacher has told him what to look for. Until his attention is thus directed and limited in its scope, the mass of competing details prevents clear impressions being formed. The boy cannot see the wood for trees. The real exercise consists in *looking for* certain things rather than *looking at* the object as a whole.

Dissection not useful.

If we are dealing with a flower or any other object which is interesting as a whole, it is a mistake to tear it to pieces for the mere exercise of analysis. For Infant School pupils one cannot imagine any suitable lesson on a flower which cannot be better given with the flower complete than with it dissected. The time for analysis of structure is not yet. A great part of the interest of a flower to a child is its beauty as a living thing—its colour, its perfume, its form. The scientific interest does not naturally arise till later, and to play at being scientific can do no good. A fruit, such as an apple or an orange, may very properly be cut up, for its interest to the child is greatest when it is so treated. The apple *blossom* and the apple *fruit* do not appeal to the same interests, and we should take account of the difference

in our treatment of each in our lessons. In each case we must take our cue from what we have observed of children's natural and spontaneous attitude towards the things. Unless we see some reason for trying to correct this attitude, we should adopt it and give it full scope, and thus we will enlist on our side the natural tendencies of the pupils.

Living Animals as "Objects."

In the case of domestic or pet animals there is no reason for confining ourselves to pictures, and models, and stuffed specimens, if the real animal can be provided by the teacher or by one of the children. The cases in which this cannot be done are so obvious that we need only point out the advantage of the cases where it can be done. But in using even the most well-behaved pet animal for our "object," it is wise to be prepared for some unrehearsed effects. It may be necessary in this case to depart very far from our prepared "notes" in order to discuss and possibly to control some unexpected performance on the part of the kitten, or rabbit, or dog which has been called in to assist. But if our lesson loses in method, and perhaps in dignity and decorum as judged by the traditional standards, it will gain in vividness and interest, and consequently in educative results.

The Cultivation of Sympathy.

There is one educational advantage, moral rather than intellectual, in the occasional presence of a real live animal. The actual presence of the living animal is the best means of developing *sympathy* with it as a living thing, and, through it, of cultivating sympathy with animals generally. The gross cruelty with which children are often chargeable—cruelty in effect, though not yet cruelty in the full moral sense of the term—may be due to various natural instincts, such as simple curiosity to find out how the animal will behave under certain conditions. Those conditions may be very undesirable for the animal; but then the child is thinking of his problem, and not of the animal and its

feelings. Then there is the instinct of "exploring" the animal, by putting little fingers into its eyes or mouth, if the animal will permit. Again, we sometimes see the instinct of showing superiority over the animal, by making it cower with terror or run away, the signs of fear being accepted by the child merely as a testimony to his power, without any thought of the suffering which the fear causes to the animal. We also see older boys throwing stones at birds, merely as a test of skill. This may not in the least indicate a cruel disposition. Cruelty may result from the habit, but the habit is not at first the result of cruelty. It arises from the desire to show skilful marksmanship, especially at such "moving targets" as the bird or the stray cat affords. Not infrequently it has happened that when a chance shot has taken effect, and the animal has been killed or hurt, the natural sympathy of the boy has been awakened, and the pleasure of making a good shot for once has been entirely obliterated by the awakened sense of his thoughtless cruelty.

The Knowledge which promotes Sympathy.

What the infant teacher should try to do is to cultivate this natural sympathy from the earliest years of the child, in order that it may check the formation of any habits which are essentially cruel. The only efficient means of so doing is to make the children realize that animals are sentient creatures like ourselves. When we once make the acquaintance of an animal, and come to understand its ways, its preferences, and its needs, there is little danger of our ill-treating it, either through ignorance or through carelessness. And the thorough knowledge of one animal helps to develop sympathy with all animal life. The boy who has a pet dog at home is the least likely to ill use a stray cur. Dogs are sometimes said to make friends easily with a man who keeps a dog; it is certainly true that such a man is most likely to make friends with dogs.

The kind of knowledge which our pupils obtain from living animals is therefore not only greater in degree than that which they obtain from pictures and diagrams; it is different in kind. The living animal appeals to a whole sphere of interests which is untouched by any substitute for it.

Structure unimportant.

The anatomy or interior structure of an animal need not be referred to at this stage. How the animal looks and what it does—these are the facts in which the young child takes a natural interest. Information regarding the rest is likely to be mere mental lumber at present. For this reason, and also in view of the cultivation of sympathy, it is undesirable for us to enlarge on what happens to the cow or the sheep as a preliminary to its appearance in the butcher's shop. A lesson on the cow is not necessarily a lesson on beef; and though the connection between the two ought eventually to be known, there would be a very serious error in insisting on this particular connection at the time when we are set upon developing sympathy with animal life. In selecting the order of our lesson material, the necessities of the child always take precedence of the logical connections of things.

What Animals are available.

The living animals available for study will vary with the locality and the type of the school. The pet animals of the household are available everywhere. A canary (but not a native wild bird) in a cage, a bowl of gold-fish, a frog (to be afterwards returned to his native marsh), or any creature which will not suffer from temporary confinement in the cause of education, are samples of what may be used. A swallow or other bird nesting close at hand will be treasure-trove, if it can be observed without being disturbed while sitting. Even in town schools in the most unfavourable localities a little ingenuity on the part of the teacher, and, most of all, a strong conviction

that such material is beneficial for her pupils, will usually result in such material being found.

Pictures of Animals:

There are obvious limits to the use of living animals. A schoolroom has not the resources of a stock farm or a menagerie. We must then fall back upon the second best—upon pictures, diagrams, and models. A good picture has this advantage over even the living animal, that it is the result of some selection and omission by the artist, and it is therefore in itself a lesson in *how to look at* the animal. This principle is carried still further in the diagram or blackboard drawing by the teacher, in which only certain salient points can be represented.

Where pictures must be used alone, some attention should be given to the *scale* on which the animal is represented. The picture of a mouse, a sheep, and an elephant may occupy equal spaces on paper. We must not assume that the children know the real size of the various animals. There is little use in our giving their size in feet or in inches. Figures are the most abstract of school material, and at the Infant School stage our common standards of measurement have no real meaning. We must help our pupils to realize the size of the animal by comparing it with some object actually in the room.

Living Plants as Objects:

In dealing with plants no less than with animals, it is desirable to have the living specimen before the class whenever possible. There is in young children an instinctive sympathy with all nature—trees, and flowers, and grass, as well as animals. Moreover, the knowledge of a flower which is gained by seeing it grow up from day to day is much superior to that which can be obtained from merely seeing it when it has reached maturity, especially when we have removed it from its natural surroundings. Hence the value of the school garden, which is beginning to find a

place in many schemes of education on paper, and even in actual practice.

The School Conservatory.

The school garden, however, is as yet somewhat of a rarity, and is most rare where it is most required—in city schools. It does not seem to have occurred to school managers—or, indeed, to many teachers—that a very good substitute for a school garden may be found in the *school conservatory*. The name may sound somewhat imposing, but the thing itself need not be either large or expensive. What we have in view is a mere extension of the common window-box. The window-box will do very well in summer, and many specimens of growing plants may be kept in good condition by its means. To construct a glass roof over the outside window-box would not be a very expensive matter, and this would give the teacher a largely increased store of educative material. But even in the playgrounds of city schools there is often a sunny corner where a small glass-house might be erected for the expenditure of a few pounds, and this would form a very paradise to the city child. Perhaps we should need a strong wire netting over the glass at first, for the youth of our cities have not all learned sufficient respect for public property ; but the mere habit of looking on such a structure as something belonging to their own school, and therefore to be protected, would be in itself an education which might in a few years render the netting superfluous.

A small conservatory has been found to be more valuable for certain school purposes than any garden could be ; for the children can see plants growing at all stages, and they can make experiments in the growing of seeds at any season in spite of the weather.

It is certain that schools in our towns could easily make such experiments at a relatively small cost, and with the happiest results. In large schools which are supplied with a heating furnace, there might well be something more

ambitious, as a pipe led out into the conservatory would maintain an equable temperature during severe winter weather. If the provision of such a convenience were kept in mind at the time when a new school is being built, the best place for it might be found to be the roof; indeed, the only garden possible in many city buildings is the roof garden.

This school conservatory would not be a boon to the Infant School alone; it would lend itself equally to the nature studies of the higher classes. From this point of view, indeed, it is more necessary for the higher than for the lower school; but with respect to the requirements of the child, its benefits would be greatest among the youngest children.

Inexpensive Material sufficient.

In the absence of such a provision of growing plants as we have indicated, the infant teacher must do her best with the resources at her disposal—flower-pots and window-boxes—and with these a very great deal may be accomplished. One of the most useful and interesting pieces of apparatus which the writer has seen in an Infant School was a small packing-box, about a foot square and four inches or so in depth, filled with an ordinary piece of way-side turf, its grass and weeds all growing in their natural confusion, and carefully watered by the little ones every day. To children who had scarcely ever seen grass growing in its natural freedom, this box of turf was a revelation, and great was the interest which they showed in it. This example is worth mentioning as showing how much may be accomplished without any great expenditure of time or money, simply by the insight of the teacher into the minds of her pupils. We are so accustomed to elaborate and expensive apparatus that we are apt to forget how little depends upon mechanism, and how much upon insight and sympathy.

Flower-pots and their Uses.

Flower-pots may be made a very efficient aid to nature study if each child can be persuaded to bring one, or can

be provided with one. The area represented by two or three hundred flower-pots is equal to a fairly large flower border. It has advantages of its own, too, this composite and co-operative garden. It can be tended and studied indoors, in all weathers, and at any season. It can be used in detail for drawing and other studies in the classroom. It can be dispersed to the homes of the children for care during vacation. It develops the moral qualities of the sense of ownership and responsibility. Its decorative value also counts for much in the classroom; while the expense of maintenance is so distributed as to be inappreciable. Where such a type of children's garden is not needed as a *substitute* for the school garden or school conservatory, it should certainly exist as a *supplement* to it.

The Infant School Museum.

A common and necessary adjunct to every school, in view of the nature and object lessons, is the School Museum. The Infant School or Department must have one for itself. There should be many objects in the Infant School museum which would be unnecessary or trifling in a collection for older pupils, just as there should be many objects in the museum of the higher school which would be quite useless and out of place in the Infant School collection. In the latter we need only things which have a real meaning to young children, and which illustrate the facts that they can understand.

The foreign curio or natural product, the illustration of unfamiliar manufacturing processes, the skeletons or parts of skeletons of animals, the scientifically constructed models of plant organs—these and many similar objects which are usually found in school museums lie far beyond the horizon of the Infant School, and should not be obtruded upon the pupils' notice.

It is a useful rule to admit to the Infant School museum only the objects with which the children are *already familiar*, or ought to be familiar. These are just

the things of which the pupils are sure to be ignorant, and they are also the things which must be thoroughly known as a basis for future work.

To stock an Infant School museum should cost nothing. If the managers provide the cases, the teacher and the pupils will do the rest. Common and permanent objects are accumulated week by week, as the teacher needs them, and they are preserved for use in the class on future occasions, or with a future class by-and-by. Many things will be brought by the children themselves, and those things will always be the most interesting.

The Value of Common Things.

Our museum, the Infant School museum, is not in the meantime to be used for the teaching of new things; it is to be used mainly for the study of things already known. Our young pupils have a good deal of information about the common things around them—sometimes a surprising amount, indeed, in the most unexpected lines. Regarding many common things, one or another in the class may be able now and then to give us information which is quite new to us. The occupation of the father or other friends, and the common talk of the home, may lead to a child possessing what seems minute technical knowledge of some special thing. But the possession of such facts is not real knowledge in the true sense of the word, because they are not yet connected aright with other facts.

We shall find that our teaching must gather up scraps of information possessed by one and another, and relate them to their proper places in a general and connected knowledge of things. Vivid but disconnected details must be put back into their proper setting in a view of the whole subject concerned. Chance streaks of knowledge are valuable, and they should be made use of when they are found in the course of a lesson. In so far as they are knowledge, they imply an interest in that particular subject. In so far as they are contributed by a pupil, they have an added in-

terest for the other pupils. They must not be brushed aside because they do not happen to fit into our pre-arranged scheme of "notes." They may upset our plan somewhat, but our lesson will, on the whole, be all the better and more interesting for their presence.

The more commonplace the objects of our study, the better opportunity will they give for making the knowledge of all the class homogeneous. Knowledge is apt to be very streaky in the best class. One pupil knows one kind of fact, another knows another, but each is ignorant of many other facts equally simple and equally necessary to know. We must therefore spend much time at first in bringing our class approximately into line as regards their knowledge of the things which are nearest and therefore of most importance. This is the only safe foundation for further instruction.

The Common not always the Known.

The teacher must keep in mind the connection between knowledge and interest here. It is not the unknown which interests, but always the known. In so far as a strange object interests us, it does so only because we already know cognate or similar objects. A common thing is uninteresting to many, not because it is so often seen, but because it is as yet unknown; they do not know it well enough to find it interesting, and the habit of trying to find out about things has been lost through want of exercise.

To children, nothing has as yet lost its interest through this kind of familiarity. Their experience is still too limited to permit their exploring the strange or the unfamiliar, and they find their most congenial occupation in exploring, under the teacher's guidance, those things of which they already have some knowledge.

CHAPTER VIII.

"OCCUPATIONS."

LEARNING is never complete without doing. The knowledge gained is not in the pupil's full possession till it has become the basis of action. We must therefore consider what kinds of handwork are available in the Infant School as a means of expressing what has been learned. Handwork has another function to perform—that of training the hand and the eye so that they may become better instruments of expression.

Play-Work.

After Language, the art which lends itself best to the expression of facts learned and of spontaneous ideas is undoubtedly Drawing, and, as a further development of similar powers, Modelling in clay, or some substitute. These, accordingly, are the occupations *par excellence* for every department of the school.

For the youngest children, however, there are many kinds of play-work which are more easy to perform than the manipulation of brush, or pencil, or clay, and are yet capable of affording great enjoyment and of providing scope for the expression of original ideas of a kind. In the nursery the box of toy bricks, for instance, is a most useful apparatus in the hands of the child. He makes all kinds of things with the bricks, and in so doing he exercises hand and eye and imagination with an effectiveness which much of our school work fails to reach. This particular apparatus

we might very well take as the type of what is needed for our youngest pupils, though we may be able to vary its form, and thus to enrich its possibilities. But the essence must not be lost—the apparatus must remain a toy.

Froebel's Materials.

The subject of Infant School Occupations necessarily suggests the common kindergarten materials, the Gifts and Occupations suggested and partly invented by Froebel. We need not give them in detail here. The things themselves are known to all who have to do with Infant School work. A full discussion of their aims and the innumerable methods of using them can be given only in books devoted to that alone, of which many are now easily obtainable. To gain an adequate knowledge of the traditional and the modern uses of Froebel's materials, a special course of training is usually necessary, or at least desirable, and special certificates for this are granted by the Froebel Institute. But to make a good educational use of Froebel's methods and to understand his principles is within the power of every teacher, and is strongly to be advocated. Any good kindergarten manual will supply the information and the explanations required.

Our Infant Schools are not merely kindergartens, however, though it is highly desirable that as much of the kindergarten spirit as possible should be introduced into them. Where children come to school at the age of three, or even four, it is necessary that the work of the first year or two should be practically confined to kindergarten work of various sorts. For most of our children, however, certain adaptations of these exercises will take the place of Froebel's own exercises, which are better adapted to the nursery than to the school.

The fundamental question for the infant teacher is not what Froebel did in his time and in his special surroundings, but what lessons she can draw from his theories and practice to aid and to improve the work she is specially

engaged in, keeping in mind the differences which exist between her work and his, as well as what is common to all teachers in every place and in every age.

Preliminary Criticism needed.

Before adopting all, or, indeed, any of the kindergarten gifts or occupations, the teacher should have clear ideas on those two points—first, the purpose which the gift or occupation is designed to serve; and second, whether, for her children, it seems the best means towards that end. Their stage of advancement must determine her treatment here as elsewhere in the school course. Most teachers will decide, probably, that the earlier gifts are unsuited for the children whom they have to teach. Toys designed for the earliest nursery stage are of doubtful value even in the youngest Infant School classes. The elementary ideas of similarity and contrast, and the like, which those gifts were designed to make familiar, have usually been acquired long before a child enters school. The possession of such ideas is indeed presupposed in the lessons given by many teachers who at the same time make use of the kindergarten gifts which assume their absence. The child should not be treated as a baby in one part of his work more than in another.

Among the more advanced of the occupations, again, the teacher will probably find some that are unsuitable from their demanding more accuracy of adjustment than the infant fingers are yet capable of, and perhaps from their involving undesirable strain on the eye. For these we may easily substitute something which will give the same training while avoiding the minute accuracy which ought not to be expected from our children. Instead of small sticks, we can obtain from any joiner or from the manual training classes of our senior school—which might be very profitably employed sometimes in making toys for the infant room—uniformly-sized pieces of wood in the shape of bricks, laths, or slabs, and the charm and usefulness of these will be enhanced by their being painted in various

bright colours. These will give the desired form of exercise without any of the drawbacks due to small size.

Materials to be used in different Ways.

We mention here colour in addition to form with a special design. In the Infant School a piece of apparatus which will serve only one purpose is not of much use. We should take a hint from the children themselves as to the kind of toy to provide. Children seem to take a special delight in using things for purposes quite different from those which they were designed to serve. They then become real toys, which may be used for one end or for another, as fancy dictates. To keep the same thing always for the same use is not in accordance with the restless imagination of childhood. If we can design toys which will serve equally for games of building, or for exercises in colour, or for counting, or for other employments, we shall be acting in the way in which the mind of the child naturally behaves. Whatever special use we may make of such simple apparatus, we must always find time at certain periods of the day for the children to do just what they like with it. From their spontaneous games and arrangements we shall learn much as to what they like; we need opportunities for learning from our pupils as well as for teaching them.

Simple Apparatus.

The more variety we can introduce into our “gifts” and “occupations” the better. The formality and monotony of the same set of symmetrical forms always used for the same ends is quite out of place in Infant School method. The teacher should select and invent, and in her selection she should remember that what is familiar is generally to be preferred. A box of empty cotton reels nicely coloured, some big glass beads, a collection of pretty shells, even a bag of large beans, will form delightful playthings for the children. The use of such simple things will, under a teacher of ingenuity, not only be very amusing, but will

serve ends which are quite unsuspected by the children who use them. Thick cardboard, again, will serve many purposes in the Infant School. Covered with paper of bright colours, and cut into different regular forms, it will serve all the purposes of more expensive materials; and being easily replaced, the pieces need not be kept in use until they become grimy and unattractive. Of course there are many forms of simple apparatus which can be bought cheaply, and which may be preferred for certain purposes; but as a general rule a teacher will make the most educative use of the material which she procures or invents for herself.

Selection of Occupations.

From occupations of the purely play type we pass to others which are more directly educative, such as those which require the child either to copy or to invent some decorative arrangement of forms or of colours. Pricking and sewing outlines on cards, paper folding or weaving, and the like, may stand for examples of this kind of occupations.

They must be capable of Development—

Before adopting any traditional or other exercise of this class, the teacher has not only to consider the suitability of the work for the stage of her pupils—she must further ask whether or not the occupation is *capable of development*, and whether it will lead to anything further. Such an occupation must not only be interesting and educative at the present, but it must keep in view further progress by the pupil. The teacher must take into account what will grow out of it next year, and the following, or decide whether it will have to be dropped because it has no possibilities of adapting itself to the growing power of mind and hand in the child.

The vice of our Drawing teaching in former times was that it led nowhere. One exercise was done after another, one figure copied after another, each unrelated to the next; the individual drawing to be made was the sole

object of the exercise, and the development of the power to draw was neglected.

One may reasonably suspect that much of the pretty decorative work of our higher infant classes is open to the same charge. If any occupation is found by the teacher to be wanting in this respect, it should be excluded from the school curriculum, and its place supplied by something which will serve the same purpose now, and will also be of real use by-and-by. The principle which we all adopt, presumably, in the teaching of reading should be applied to these occupations also: we are never satisfied with a child simply knowing or being able to read any given word; we insist on his knowing it in such a way that his knowledge of that word will help him to the knowledge of other words. The word itself is an end at first, but only that it may next become an instrument for further progress. So in this department, if any form of exercise is only an immediate end for the child, and does not lend itself to becoming an instrument in his hands, its use is an educational blunder.

Something will depend upon the teacher as well as on the exercise. One teacher may be able to make a certain kind of work useful for further developments, while in the hands of another teacher it serves only for the present production of something pretty. No absolute rule can be laid down as to the actual exercises which should not be used. The general principle is clear enough, however, that no occupation is of much educational value unless it leads somewhere, or has the germ of growth within it; and of this the individual teacher must be, on the whole, the responsible judge. She alone can know what she is able to bring out of any exercise.

And afford Means of Expression.

We may reach another useful criterion for our occupations if we consider them from the point of their *expressing the child's ideas*—of showing his own conceptions or inven-

tions, or those suggested to him by his teacher. As those ideas will, we hope, develop and expand, the medium of expression which we put into his hands must be capable of expressing later those more complex ideas. Otherwise its use will either hamper his inventiveness and freedom, or he will have to discard it in favour of some other medium of greater wealth of possibility. Whatever form of work we select for him, we must keep this aspect of it in view—it must be capable of adapting itself to the growing powers of expression of the pupil; if it is not, it should be dropped.

Study of Form and Colour.

The occupations which we select should provide for the teaching of what in former days was specified in the infant curriculum as “Form and Colour.” Those form and colour lessons were generally the most dreary and abstract part of the course. We must try to find a better way of reaching the knowledge which was aimed at in them.

It might be of some service to change the *name* of the lessons, just as a reminder to ourselves of the treatment which we wish to adopt. “Form and Colour” is abstract in its very expression; we may find some relief from this abstractness in calling them lessons on “Forms” and on “Colours.” Each form and colour which we can study is embodied in a concrete, real thing, visible or tangible. It is those *things*, and not form or colour in the abstract, which are the proper subjects of lessons to infants and the proper materials for manipulation by them. This type of lesson should always be associated with handwork. The forms and colours should be learned by use.

Forms and their Names.

Children acquire from their own experience, and from the conversation of those about them, a good many ideas of forms, but their ideas need to be supplemented and corrected. Their names for forms often require to be made more precise and definite, and this chiefly as a lesson in

the proper use of words rather than a lesson on the forms. Even adults are often too loose in the use of words denoting form, chiefly in applying the names of plane figures to solids, as using "square" for cube, or "round" for circle, sphere, and cylinder indifferently. The ideas are perfectly simple, and the names are not hard to learn. We need not insist upon any pedantic scrupulousness in common talk, but we must see that a pupil can express without ambiguity any idea which is for the time important.

Solids such as the sphere or ball, the cube, and the prism ; plane figures such as the triangle, the square, the oblong, and the circle—common forms like these will be enough for our purpose. Pentagons and other polygons may wait, for we shall not *need* them in the meantime, and it is not the science of geometry but the needs of the child that ought to determine the limits of our teaching.

Colours of Things.

Colours even more than forms are fit subjects for talking about to children, and for forming an element in their occupation material. Colours, especially bright colours, are of general interest to the young. Not the "primary" and the "secondary" colours of our object-lesson books, but the actual colours of things—of flowers and birds, and of the frocks of the little people themselves, and, above all, the few colours that are in their paint-boxes, and the other colours which are not there, but which can be made by mixing those that are.

In dealing with forms and colours, the thing must precede the name. Our procedure must be practical and concrete throughout. The lesson comes as a necessary part of the occupation, in order that we may know the name of what we are working with, and not as a piece of theory which might as well be taken on any other day as on the day which we choose for it. We must have connectedness here, as well as everywhere else, and the lessons on the forms and colours of things must be naturally connected with the

actual things which we use in our handwork or discuss in our nature lessons.

The brightest colours are always the best for young children. To primitive peoples, which our pupils resemble, and to peoples who live under sunnier skies than our own, which in a sense our children also do, bright colours are in themselves a source of pleasure. We need not expect children to take much interest in the subdued tones and neutral tints which we generally regard as being for some reason more æsthetic.

Colour Teaching and Colour Blindness.

Colour work is not only one of the most attractive forms of occupation for the Infant School; recent inquiries seem to show that it has an educative value of a kind which we could hardly have predicted. Among adults a certain percentage, which is pretty much the same for different countries, are found to be colour blind, or to lack the power of distinguishing certain colours from one another. This colour blindness is, of course, a bar to some forms of employment where colour signals are employed, such as in railway work or on board ship. As a result of a recent inquiry it was found that among those who had received regular instruction and practice in colour work at school, colour-blindness was practically non-existent. This would seem to indicate that in most cases the defect is due to want of training at the proper age, and not to any defectiveness in vision. If this is universally true, and not a mere chance coincidence among those examined, the teacher will be warranted in placing a higher value than we have hitherto done on the colour work of the Infant School. By giving her boys this training, she will remove from their path any bar to success among the future ship captains and railway guards, and she may thus also remove the possibility of accidents to those who will travel under their charge. There will be no probability of their ever mistaking the red light for the green, either on the high seas

or at the railway junction—a mistake to which many accidents seem to have been due.

Girls, as a rule, are more interested in colours than boys are, possibly because their dresses afford more practical training in the study of colour. And it is probably due to the same cause that colour-blindness, like stammering, is a defect from which girls suffer less commonly than boys do. Nature seems to indulge in a little favouritism now and then in her treatment of the sexes ; but there is always a historical explanation as well as a purpose to be sought for in nature's processes.

CHAPTER IX.

READING.

IN discussing school work as it is, one must come sooner or later to books and Reading. Better later than sooner, however. Theory and practical experience alike condemn a too early attempt to teach the written or printed language. Most of the traditions of the school put reading as the first and chief factor in education. There was more justification for this view when children did not begin school life till about the end of the Infant School period. Even then, however, books usurped too large a share of the school time. With pupils coming to school as young as they now do, especially in town and village schools, there should be no attempt at first to follow the traditional course of the "three R's."

When to begin Reading.

The Infant School pupil's stage of physical development is unsuited to the mastery of those crooked little black lines which carry so much meaning to older folks. In addition to the cruelty of teaching reading and writing before the child can learn it easily, there is an enormous waste of precious time in making the attempt. In ordinary circumstances the child who begins to learn his letters at six will soon be abreast of one who began at four, and who has in the meantime been dwarfed in various directions by our attempts at giving him precocious acquirements.

It would be well—but in the case of children whose homes are poor in books it may not always be possible—to defer the teaching of reading and writing *until a child feels a desire to learn them*. In favourable circumstances that desire arises very early—sometimes we may feel that it is too early; but the child is not a bad judge in the matter. Some children become absolute nuisances to their friends at this stage, and will proclaim aloud their recognition of a familiar letter or word on the advertisement bills on 'bus, or car, or elsewhere. When a child reaches this mental attitude towards letters, it does not matter much which of the orthodox methods of teaching reading be adopted, or whether an entirely heterodox plan be followed. The child has taken the matter into his own hands; he is going to learn reading, and he will ask what he wants to know.

This would be the ideal method of dealing with the question. There might be some indirect interest at work, as in the traditional tale of the young King Alfred; probably in teaching the early stages of reading there must always be an indirect interest to sustain effort. There is nothing in our array of capital and small letters to excite interest for their own sake; but after the first step has been taken there is the perennial interest which ever attaches to conscious power, and a child will enjoy mastering a new word as he will by-and-by enjoy solving a new problem in geometry, or finding the answer to a puzzle or conundrum. This interest of conscious power is at hand to aid the teacher in every subject, however uninteresting in itself, and skill in teaching consists not so much in avoiding or smoothing away difficulties as in arranging them so that the conquest of one always leads to the power of conquering the next.

Reading connected with Handwork.

When the natural desire to learn to read has not yet arisen in a class, or in some of its members, and the teacher has decided that reading should nevertheless be commenced—a decision in which she may be influenced by other than

educational grounds—the universal plan must be followed of connecting the new subject with those already begun, the oral lessons and the “occupations” or handwork. Reading is easily connected with both, and from the first the children should feel that it is a natural adjunct to the already familiar language lesson.

The first Step analytic.

The teacher may select an easy word—the name of some object just discussed, for example—and print it on the blackboard. Some of the children will recognize it, for there are generally children in every class from homes where some care is given to aid the school work, though it may not be of the most enlightened type. By showing a picture with the name printed below it, or by some similar means, the children come to recognize that the familiar *sound* of the name can be represented by certain *marks* or letters.

This is as much as to say that the first step in teaching letters, as in teaching anything else, must be analytic. We must begin with a *whole*: anything may be considered a whole, with reference to the parts of it which we mean to investigate, and in this view one word is a whole just as much as a sentence or a book would be.

But when we have once made the plunge into the subject, and have aroused the expectant apperceptive attention of the class regarding the use of letters, we need not go through a similar step with each letter in turn. When the first step has been taken which links *some* letters to their best known sounds, we may easily go on to introduce *all* the letters, one by one, without further ceremony. If we wish to be more logical, we can easily find simple words which will embody the letters we teach, and which we may introduce for this special purpose.

As a matter of convenience, we shall find their *form* relations the best clue to follow in studying the letters; for letters as printed symbols *are* forms, and nothing else. Their sounds are, of course, essential to learn also; but since

it is by the *eye* that the letters are to be learned, it is the eye that we must study in our procedure.

Teaching the Alphabet.

The two letters most easy to recognize are **o** and **x**. Next after these we may take the short letters, in groups related by form, though it is also worth our while to pay some attention in our selection to the degree in which the letters can be made use of in building up short familiar words—for this is a kind of lesson in which the fifth “formal step”—Application—must be constantly used. The letter must be *used* not only in the sense of being drawn, or otherwise made *as a form*, but it must also be used in its proper function *as a letter*—that is, to build up a well-known word in which it plays its part along with some letter already known. For this reason it may be well to teach the vowels somewhat earlier than their form-qualities would warrant, so that word-elements may be at our disposal.

Closely related forms which are prone to be mistaken must be studied together, and their differences realized, such as **n** and **m**, **v** and **w**, and when we reach the long letters **b** and **d**, **p** and **q**, **i**, **j**, and **y**, and the like.

As to the priority to be given to the small letters or the capitals, the teacher may follow her own taste. There is the advantage of simplicity of form in the capitals, while the advantage in use lies with the small letters. But as all this is to be done without books, as a blackboard and drawing exercise, there is no reason why word-making should not be done for a time in capitals throughout; in this case, however, the memory of such words will give little help when the children come to deal with the actual words in their books.

The Printed Characters.

It will be worth the teacher's while to learn to print the small letters correctly. One often sees the letter **a**, for example, printed on the board in a form which will not

give the children much help in recognizing it in their books. Some teachers use a kind of italic letter in these exercises. There is this to be said for it that such letters are more easy to trace on the board; but it has the disadvantage of misleading the children when they take up the Primer or the Reading Sheet. There is not much hardship in the teacher learning to draw a plain Roman **a** or **g**, and the trouble would be worth the while.

In many American schools, the script character is learned before the printed, and the early reading-books are wholly or partly in script. This gets over the difficulty of printing letters on the blackboard, but it has no balance of advantage to recommend it. The fact that script characters are joined to one another and not apart, as in printing, is an objection to beginning with the former. In any case, *both* forms must be learned in the long run, and the better plan is to begin with the normal printed lettering as used in books.

Use of Knowing the Alphabet.

We have assumed that the letters will be learned before the children begin reading, or rather concurrently with the earliest word-studies. This may possibly be regarded as a heresy in method by some teachers, who regard the teaching of the alphabet as necessarily connected with the "alphabetic method" of teaching reading. There is no logical connection between the two from this side, at least: of course the alphabetic method requires the alphabet to be known; but so in the long run does any method, and it is wise to finish the alphabet when one has begun it.

Some teachers and writers who are very strong on the "look and say" method seem to consider it a triumph of that method that it enables children to read words through knowing the *powers* of the letters *without* their names. It is quite as easy to teach the powers of the letters *and* their names—easier in the case of many letters, and possibly only more difficult with such a letter as **c**. But the advantage of knowing the *names of the things* one is dealing with

renders the proceeding just described the best for practical work.

Letters studied as Forms.

The letters which are being studied should be copied by the children in one or more mediums. The big blackboard, the children's drawing-boards or slates, the brush or the pencil, placing sticks or other objects on the desks or tables, cutting letters out of paper with scissors, picking them out from among letter-cards—as many of these and other methods as can be used should be practised. At the same time, the form should be studied and analyzed *as form*, attention being given to the fact that certain parts are vertical lines, others sloping, others curved, some parts lines, others dots, and so on. A form is really never known till it is *made*; and a form can never be made till it is *analyzed*, consciously or unconsciously. In this case the analysis should be made consciously and deliberately.

When the alphabet has thus been mastered, the children are ready to go on with the study of words, *without the interruption* due to meeting with new and unfamiliar forms. Whether the children know the conventional *order* of the letters is in the meantime quite immaterial. We do not need to know the conventional order until we use a dictionary, or other alphabetically arranged material. At the same time, there is no hardship in learning the traditional order now, provided it is learned by easy enough stages.

The "Methods" of teaching Reading.

Words as words come next. Hitherto they have been used only as a means of studying letter-forms and easy letter-powers. Here, then, is the point where the teacher must face the traditional "methods" of teaching reading, with their advantages and disadvantages, so often neatly tabulated and numbered in order that teachers may reproduce them on their School Management Examination papers. The traditional summaries of pros and cons may have some advantages as regards logical thinking; but in

practice the logical teacher is apt to suffer many things at the hands of her conscientiously adopted theory. The most practical teachers have always discovered sooner or later that no one "method" will serve their needs.

There can be no doubt that the keen canvassing of methods as each being the shortest way to teach reading, is almost entirely due to the fact that we teach reading too early. Any method which is guaranteed to teach a young child to do rapidly an exercise for which his natural powers are unfitted must savour of the artificial, and cannot be really educative. The wise teacher will always look with suspicion upon a method which promises perfection "while you wait." We must look to the child, and not to the reading, as the chief factor to be taken account of. If we defer this exercise until the muscles of the eye and of the hand are under sufficient control, and until the mental powers are fit to cope with the problem of translating the unfamiliar sign into a sound already familiar, we shall not be driven to invent short cuts and mechanical devices.

Analytic Methods.

The methods of teaching reading are usually divided into (1) Analytic, and (2) Synthetic. In the former class, of which the "look and say" is the type, the child is first introduced to a word; the sound of the word is analyzed into its sound elements; and then the signs which represent these elements are memorized, either by their forms alone, or also by their names. Thus, in the word "**cat**" the children learn the force of the letters from saying and hearing the sound "**cat**" pronounced as far as possible in its three parts **k'-a'-t**. These sound symbols, when a sufficient number have been learned to go on with, are then rearranged into new combinations, such as **r'-a'-t**, or **k'-a'-r**, and so on. But the essence of the method, and the only part of it purely analytic, is the *division and recognition* of the sound symbols, so that they can be sounded when met with in a new word though in a different

order. This latter part of the method is, of course, not analysis but synthesis.

Synthetic Methods.—The Alphabetic.

The synthetic methods take the reverse order. They begin with the letters, either by name or merely as sound symbols. Given a knowledge of these, acquired, of course, by pure memory, and not by observing their use in words at first, the child is able to sound them when they appear in any combination. The oldest form of this method was the alphabetic, when the word was first spelt and then pronounced over and over and over again, the value or sound of the letters being left to find its way into the pupil's mind by unconscious deduction from many weary examples. After repeating "**see-ay-tee**, *cat*," a few scores of times, the pupil came to feel that the sound "*see*" had *nothing* to do with the sound of the word, and the whole process must have been inexplicable to him.

The Phonic.

An improvement on this is the *phonic* method. Here the names of the letters are—or may be—ignored, and when the pupil observes the **c** in "**cat**" he is supposed to think at once of the **k'** sound, and to reproduce it. As it stands at this stage the method is, of course, quite sound. Its defect is merely in the means by which the pupil learned that **k'** is the sound of **c**. This should be learned by *analysis* of a word, and not by mere telling.

The obvious difficulty in the way of the phonic method, or any other method of teaching English reading, is that one letter does not always have the same sound, and that one sound has not always the same symbol to represent it. The language has outgrown its alphabet, and has ignored it even where it is adequate.

The Phonetic.

Hence arose a further synthetic method—the *phonetic*. In this a certain symbol—a letter or a modified form of letter

—is used to represent each sound in the language. When the child has learned all those numerous symbols—forty or thereby—he is ready to vocalize any combination of them which may be presented to him. Teachers who wish to experiment with themselves in using such a system will find examples of it in Pitman's or other phonetic books.

The chief objection to this system is, of course, that it is not English. The task before the teacher is to teach the reading of English as it is written, not the reading of a different alphabet. This is not in the meantime a plan of much practical value, whatever it may be when we adopt a new alphabet.

Modified Phonetic Devices.

A middle course is adopted in some American and other school-books, where a system of diacritical marks is used to indicate which of all its possible sounds a letter is to receive. These diacritical marks or pronunciation signs mean a large addition to the labour of learning the letters, and they have not been adopted to any extent in England, except in our pronouncing dictionaries.

A system of colour marking has also been invented, whereby the pupil sees in the colour of the letter a kind of danger signal to warn him that it represents one of a certain class of sounds. But the four colours used—black, red, blue, and yellow—do not carry the pupil far, after all, among the varied sounds of the language. Colour may well be used on the blackboard at early stages for help in word-making exercises, where only a few sounds are being studied at a time. When books come to be used, these should represent the English language as it really exists, and should not evade the initial difficulties for the sake of attaining a specious rapidity of progress at the beginning.

Every Method must be both Analytic and Synthetic.

Reading cannot be taught either by an analytic or by a synthetic method. All teaching must include *both analysis and synthesis*. Only thus does knowledge grow. The

question is not whether a lesson shall be analytic or synthetic, but what place in it shall be given to each process, the former being necessarily the introduction to the latter.

We must follow the usual principles of teaching, and begin with the known and the concrete. The "object" in this case is a word, whose meaning and whose sound are already familiar. We have then to add to this known object of *meaning* + *sound* the new element of symbol, and leave it as *meaning* + *sound* + *symbol*.

In our early analysis of words we shall find it useful to deal with at least two words for the sake of comparison and contrast, though induction is a process we cannot use much in the Infant School.

Analysis of Words.

Here we shall find colour of some use. On the black-board we print the two words under consideration—say **cat** and **rat**. We shall use a red crayon, let us say, for the diverse elements, the **c** and the **r**, to call special attention to them, while we use plain white, or some other colour if we prefer it, for the common part, the **at** in each word.

As a matter of practice most teachers prefer to begin with words of two letters, and although the learning of such words is almost purely a memory exercise, like learning the forms of the letters, there is some convenience in the procedure. Even from our two-letter words the powers of a good many letters can be learned in much the same way as we have outlined. In dealing with the two-letter words, such as **no** and **so**, we should use the two colours in the way indicated.

If this plan has been followed with two-letter words, the children will recognize **at** as already familiar, and this the more easily from its being isolated by its colour. So, when the new word-form **cat** is written down, first all in one colour, and next divided as described, the **at** is recognized, and only the force of **c** is new. Again with **rat** the **at** is

recognized, and the force of **r** is learned—if not already known from the word *or*. The children may now be allowed to mention other familiar words with the sound of *at*, and these—**fat**, **bat**, **hat**, etc.—will be written in columns in the same two colours. Here analysis and synthesis are both at work, dividing and building up alternately. The sound of a word already known as a whole is broken up by the colour writing, and when the force of each symbol is thus learned, the *sound* is again constructed as a whole, this time from the symbols.

Synthesis of Words.

The exercise may be varied by the teacher writing down the symbols of a word new to the pupils, but composed of symbols which are already known. The class is then required to sound these components one after the other, when the already familiar sound of the word will at once emerge, often to the surprise and pleasure of the pupils. For example, if the words mentioned above have been given by the pupils, the word **pat** may be written by the teacher for this practice—provided the force of **p** is known—and the children may be required to sound first the **p**, and then immediately the **at**. If there happens to be a boy of the name of Pat in the class, the word will emerge with an added interest. If not, the class may be required to imitate the action suggested by the word *pat*.

Use of the Reading Sheet.

The real and natural “application” of the word-study lesson, however, is the use of the new power of *giving sounds for printed symbols*—that is, the reading of a few sentences or phrases consisting exclusively of words already studied. This is where the Primer and the Reading Sheet come in, the latter preferably before the former.

The reason for taking the reading sheet first is plain. On the printed page, however simple, the child finds a good many new things—pictures, sentences, and the rest.

He needs something at first to guide his eye to the proper place and to keep it there—no easy task when the pictures are made so attractive to children as they now are.

When using the reading sheet at first, the teacher, or the pupils in turn, point to the words actually being read, and the habit is formed of following the horizontal line. This in itself needs to be *learned*, as an eye movement. Some nations read from right to left, others in vertical lines, and we must not assume that our habit of reading from left to right, and then jumping back to the left again one line lower, is an instinctive or natural act. Even this series of movements, simple as they are to us and requiring no conscious control, must at first be learned by conscious effort and practice.

Pictures.

The mention of pictures here suggests that when the reading sheet or page is to be seriously faced, it is well to exhaust the picture first. A short talk about it and the various things in it will not only be interesting and educative in itself, explaining details which may not be so clear as the artist supposed, and introducing in sound and in meaning the words which will next be studied in symbol, but it has the added benefit that the picture will not now act as a distraction to attention. Any boy who notices something in the picture which he does not quite understand is almost sure to find his eye and his attention straying to that puzzle, instead of fixing themselves on the printed words. When the picture has been discussed, however, the wandering eye returns from it the more readily, as there is no more mystery to be unravelled. The thing is now accepted and left alone—if not absolutely, at least in a greater measure than would have been possible otherwise.

Size of Type and Distance.

The size of type on a reading sheet requires some notice. We must not assume that because it *is* large it will *seem* large under all conditions. What determines the apparent

size of an object is the angle which it subtends to the observer, or its size divided by its distance from the eye; on this depends its size as focussed on the retina. If we wish the pupils to reap any advantage of size from the big type on the reading sheet, we must see that each of them is within a reasonable distance of the sheet, and that all see it as much as possible at right angles—that is, that the class is well in front of the sheet, and not extended far to either side of it.

What is the extreme distance which might be called “reasonable” in the case of a large reading sheet? The teacher can easily judge by a simple measurement and a simple calculation. If she finds that the height of a given letter on the wall sheet is five times the height of the same letter in the primer, the greatest distance of the sheet when used should not be more than five or six feet; at that distance the letter will appear equal in size to that in the primer when held at a distance of twelve inches from the eye. When drawing letters on the blackboard, or when drawing anything else, for that matter, the same ratio of size and distance must be kept in mind.

Legibility.

In discussing the care of the eye in an earlier chapter, we indicated that care is necessary in the selection of infant reading books as regards the style of type. Since the pupils are at a stage when the form of the letters presents some difficulty, it is essential that the letters put before them should be of a simple yet correct form, and of a size sufficient to allow that form to be easily apprehended. The form of letter should be fairly broad, not suggestive of lateral compression, and the lines should not vary too much in thickness in its several parts. It is difficult to see the real form of the letter *m*, for instance, when the vertical parts are much thicker than the curves, more so than when the whole of the letter is of a more uniform thickness. To adults, difficulties of this kind are hardly appreciable, and

any kind of an outline is enough to suggest the letter; but not so to children.

The accompanying specimen shows the type which is most to be recommended for early reading books. The size is sufficient, and the form is open and well proportioned, without excessive contrast between the thick and the thin parts, and without the unpleasant heaviness of some types which are used for the sake of clearness. The large specimen represents the same type enlarged five times, for use in reading sheets. The specimens are selected from the "King" Infant Series of the publishers of this book.

That is a mill.
It is on a hill.
It is at the top.

The

Early Reading Lessons.

Despite the irregularity of our English spelling and pronunciation, a sufficient number of fairly regular words exist to make up early reading lessons for our pupils. Any well arranged primer will serve to illustrate this. There are a number of the short words in most common use which are hopelessly irregular, however, and these must simply be learned by force of memory and of frequent practice. A very full use of analysis and "word-building" applied to classified words is necessary to give that practice which

in later stages will enable the children to sound correctly the new word-forms which they meet. These exercises, also, or models on which they should be built, are usually given in all good primers.

Pronunciation.

From a very early period in the teaching of reading the children must learn to read with natural accent and expression. From a very early period, but not from the first; the first step is to read *words*, and in this there is no expression necessary or possible. As soon, however, as a number of words sufficient to form a sentence are known, the sentence must be read with proper expression.

In word-reading the necessary quality is correct pronunciation, depending on (1) the vowel sounds being pure, and (2) the consonants being clearly enunciated. This really comes before the teaching of reading, for it belongs to the oral language-teaching already discussed. But correct pronunciation is something which requires frequent attention by children who speak with provincial peculiarities. When the visible symbol makes a new call on attention, the old imperfect pronunciation of the home and the playground will be apt to reappear.

Reading Sentences.

In sentence-reading no proper expression can be expected unless all the words are already familiar. In order to appreciate this difficulty, the teacher must experiment on herself with an unfamiliar language. She will find that her ability to read with proper expression a sentence in German or Italian depends in the first place on her being able to vocalize each word, and in the next place on her eye being so familiar with the words and their meanings as to travel freely some distance in advance of the word which she is uttering, and to grasp each phrase as a whole.

The elements of a sentence are its words, just as the

elements of a word are its letters. The word cannot be pronounced until the whole of its letters are grasped at once by eye and mind. So the sentence cannot be read as a sentence until the mind has grasped all its separate words and can hold them as one group. In our own reading we read quite fluently by grasping only the phrase on which we are engaged, leaving the other phrases till we come to them one by one; and only the occurrence of something unusual in the structure of the sentence can throw us out in our oral rendering. But to young children this is impossible. *Everything* in a sentence is as yet unusual. Hence they must first make acquaintance with the words in a sentence either by reading them or by hearing them read by another pupil; then, but not before, they are ready to read the sentence as a sentence.

Grouping of Words.

The chief element of expressive reading is the grouping of words. Even a simple sentence like, "The fox is in his den," gives scope for this practice. This grouping is not to be learned by rule, and is not to become artificial by a long pause being made. It can be shown by means of example that this grouping helps the listener to follow the meaning. If, therefore, we have made sufficient use of language as oral, there will be little need for saying where and why the voice pause should occur. If we have used the oral practice of speech aright, this pause is already familiar. It has been used in the teacher's and the children's speech during the story lessons and other oral lessons. We require them now to do from the printed symbols what they have already done in their language exercises.

The same may be said of the emphasis to be placed on important words. The children will feel the difference in meaning between "The fox' | is in his den'" and "The fox | is in' his den," and we need only tell them to "make the meaning clear." Much of our success here will depend on the oral practice already given.

Beyond these points there is not much to be said of reading in the Infant School. When the children come to read longer sentences, there will be the same two elements of intelligibility to be kept in view; the voice pauses will be more in number, and the pauses marked by commas will be added, but there is nothing really new to teach. The pupil is only coming a little nearer to doing *from* the book what he has already been taught to do *without* the book—to speak clear and intelligible English.

Pattern Reading and Simultaneous Reading.

The reading practice in the higher classes of the Infant School should be carried on with a view to developing *in the individual* the power of rendering orally the matter which he sees on the printed page. No plan should be followed which tends to weaken individual initiative. A pupil should not be helped until he has actually failed to do what is required, whether that be to pronounce a new word or to give the proper expression to a sentence. Hence pattern reading and simultaneous reading are alike dangerous, though they may give a temporary success.

It is necessary to be clear on this point. Language is an imitative art. But this applies to *spoken* language alone. The pupils' acquaintance with and power over spoken language must always be far in advance of his power to read, both in the Infant School and for a considerable time after he leaves it. But the power to translate the written symbol into its appropriate sound, whether we think of word or of sentence, is *not* an imitative acquisition. It is a power to be exercised *by the individual*, and to be applied to new words and combinations of words every day. All imitation here tends to postpone the development of this power.

The same objection applies to the *exclusive* use of sentences constructed by the class and printed on the black-board; or, as in some American schools, printed on paper and made into reading books for the children. This plan

also confines the practice of reading to the previously known, and does not develop the power of dealing with the new or unexpected. It is only a stage better than the now obsolete habit of reading and re-reading a book so often that it ceased to be an exercise in reading, and became one in repetition from memory.

Expression learned in Oral Lessons.

The popularity of pattern reading and similar devices to obtain intelligent reading is due simply to this error in language-teaching—that distinctness and expression in speech have *not* been secured at the time when speech is purely *oral*, but have been left over till the time when printed language comes to be studied. Hence the pupil has to learn at this later stage not only *what words* the symbols represent, but *how* these words and groups of words should be pronounced and emphasized. The latter should be taught, as we have said, in the oral language stage, and only the former difficulty should remain to be faced when the printed sentence is taken in hand. The essence of success in teaching is to present only *one* difficulty at a time; success in education implies the further art of presenting each class of difficulty at the *proper* time, as determined by the child's powers and development.

The most varied types of expression in oral speech can be made quite familiar to children in the Infant School. The teacher who is a successful story-teller will employ in some degree all the arts of the dramatic reciter, in tone, emphasis, pause, gesture, and the like. These things become familiar and natural to her pupils. When they in their turn tell a short story or part of one after her model, or when they recite some little gem of verse which she has taught them not only to repeat but to enjoy, they also will use those devices which redeem speech from monotony, and make it an index of feeling as well as of thought. Young children will not only give expression, but even exaggerated expression, with the utmost ease; but all this is confined to oral

speech. It will be years after they leave the Infant School before they are able to recognize all these things as existing potentially in a printed page, and be able to give them voice. Expression exists, or should exist, in the Infant School, but there is little place for it in the reading lesson as yet.

Use of the Power to read.

Before leaving the subject of Reading, we must notice once more the application of the principle—a cardinal principle in all teaching—that as soon as knowledge has been acquired, it should be used. In every separate lesson we must provide for the exercise of this principle. As soon as the force of certain letters has been learned by analysis, they should be used in building up new words. As soon as a small stock of words has been acquired, these should be used in the reading of sentences on wall sheet, or on primer page, or on blackboard. And now we have a further application of the same rule to consider.

When the children have worked through their primer stage, confined to regular classified words, with the addition of such easy irregular words as are of frequent occurrence, they usually proceed to an "Infant Reader." This book should be based on the general principle of all reading—not on the words, but on the *matter*. The children now read short lessons, stories, and poems of an interesting nature, written, of course, in the simplest possible style, but no longer written as an exercise on certain *classes* of words; it is a reading book, not a primer.

"Supplementary Readers."

Yet even this type of book does not quite represent to the child the books which his elders read. These books are not made up of short, scrappy stories, with lists of hard words to study; they contain stories—long stories—just one story in the whole book, perhaps. A real book is a unity, not a mere collection of parts. The ideal book

for children would be one of this type suited to their age and ability.

Hence it is desirable to use, as early as possible, if not as *the* reading book of the class, at least as a "supplementary reader," one or more of those continuous books for infants which can now be easily obtained. When such a book is put in their hands, the children feel that they can *read*. They are making the natural use of their new power, and are reading a *book*—a book which has a name of its own, and not merely a number—a book which is all about one subject, and which they will read day after day till it is finished, just as they see older people do. This type of book does much to remove the feeling of drudgery which is apt to creep into any subject where the mere learning is the only end in sight. Such supplementary reading is the natural sequel to the word studies and exercises of the lesson book, and is the best application possible at this stage of the rule we have insisted on throughout—the real use of what is learned.

CHAPTER X:

WRITING.

AFTER reading, Writing. Such has been the traditional order in schools and in books about schools; and whether we find it well to follow this order in teaching or not, it forms a quite natural order for discussing methods of teaching.

Connection of Writing with Reading.

The chief difficulty in establishing a connection between the teaching of reading and that of writing is simply this, that we use two distinct alphabets in the two processes. If the letter forms were alike in both, we should certainly teach the two step by step together. We should always either write first and then read what had been written, or read first and copy what had been read. The use of the eye in reading, and the use of the hand in writing, would then combine to give a complete mastery of the written symbols, and both alike would be related to the use of the voice and the ear, which are the natural organs of language.

Attempts are being made in our schools to combine reading and writing at the early stages. We have already recommended the teacher to learn the printed characters for blackboard use for this very reason. Many teachers modify these characters, using a kind of simple italic form written nearly upright, and teach the children to draw the same forms. It is found that children who have had enough practice in drawing either form are able to learn the script character in a few lessons.

Modified Script Characters.

The modified printed character has this advantage over script, that the letters are *not joined*—the child sees clearly where one ends and the next begins; and so the letters, as representing the elements of sound, keep their natural relations. At the same time, printing or drawing the letters is of definite value as an introduction to writing, in the proper sense of the term. It is not writing as yet, but it is a modification of *drawing* which trains the hand and the eye in the kind of movements which are involved in writing. It is simpler than writing, as all the important movements are made downwards; one of the great difficulties of writing is the upward movement of the hand. Moreover, the teacher can select her modified forms so that, in the small letters at least, which are alone necessary at first, all that is done at this stage will be useful in the next; there will be nothing to unlearn—no forms to alter, but only certain parts to be added to each letter, mainly in the up-strokes which form the joining of one letter to another.

The traditional script character used in writing must come next; it must come, whether we use this introduction to it or not. The teacher must then decide on the style of writing which she will adopt, and on her methods of teaching it. Before the child leaves her he is expected to be *able to write*—slowly, of course, but legibly. What he does in the primary school is not to *learn* writing, but to *practise* it, and to apply it to various practical purposes.

Conditions of Legibility.

What a person writes is usually meant for the eye of some other person; one does not usually write merely for his own reading. To be of real use as a means of representing sounds, and thereby conveying thoughts to the mind of another, writing must first of all be *legible*. This is best secured by using a *simple form* of letter. The letters, again, should not have much *slope*, as the tracing of such a form

by the eye actually requires a movement from right to left, the reverse of the movement most used in reading. The *proportion* of the letter is of some importance for legibility. Excessive length in proportion to width, or narrowness in proportion to length, retards the speed with which the eye of a reader can follow the written line. Great difference in the *thickness* of the line used, or thin hair-lines upwards with heavy lines downwards, is apt to obscure the real form of the letters. This feature in writing becomes irritating and positively painful to the eye in reading. The *spacing* is also important—the proportion of space between two letters as compared with that between two parts of one letter, and the space between two words as compared with that between the letters in a word.

The “Civil Service” Style.

Spacing was much studied when the old “copper-plate” style began to be discarded for the less decorative but more legible “civil service” style of writing. It then became fashionable to set the letters of a word somewhat apart from each other—a plan which increases greatly the legibility of writing. Unfortunately, like most good things when first introduced, this feature was caricatured by being carried to excess. Individual letters were narrowed and compressed, while the intervening spaces were increased, and in many school exercises one came across pages of beautifully-formed letters which could be deciphered only with considerable care and trouble. The letters seemed to assume an attitude of apology for their presence, while the joining lines, all beautifully parallel, roamed triumphant over the page. Such excesses have caused in some quarters a feeling against the “civil service” style, and a clamour for the old “round hand.” This is probably only temporary and occasional. The real cure for the excessive narrowing of letters and widening of spaces is simply *not* to narrow the letters and *not* to widen the spaces beyond the degree which legibility demands. When carried further than this, spacing

is not only useless, but is a hindrance to the end which it was designed to serve.

The only other point which needs consideration on the score of legibility is *size*, but this point does not concern the Infant School. At the stage when the details of form are being learned and practised, no teacher is likely to use too small a size of letter.

Conditions of Fluency in Writing.

Thus far we have considered writing as something to be read. But it is also something to be *written*.

The size of letter to be used must be determined by two things: the size must be *large* enough to be very distinct, and yet *small* enough to be easily covered by the motion of the fingers alone while the hand is at rest. In practice it is found that a size very little larger than that known as "half-text" is the most suitable at first.

The style must be chosen with a view to ease and fluency in writing. Some of the points which make for speed in writing are of no importance in the Infant School, except in so far as they look to the future. We must take care to select a style which can *develop* into a current hand without the pupil having the trouble of unlearning anything which we have taught him. Some of the points which aid in rapidity later on are positive hindrances at the Infant School stage, and we may feel doubtful whether we should introduce them at that stage.

Continuous Writing of Words.

As an example, we may take the *continuous writing* of words, without lifting the pen till the end of the word is reached. When the pupil's hand has grown in size and in freedom of accurate movement this is a point to be carefully studied. But the case is entirely different in the Infant School, where the writer's hand is small and stiff—a *left* hand yet, so far as the pen is concerned—and where, in spite of this, we must teach him a comparatively large

size of letter for the sake of distinctness in form and of avoiding strain to the eye. It would be a mistake at this stage to attempt to have words written without lifting the pen. The child cannot keep up the continuity of *movement* which makes this style an advantage; he must stop the pen, whether he lifts it or not, in order to move his little hand along the paper to its place below the next letter. He cannot at the same time write and slide his hand bodily along the page as we do in later years. The adult writer can easily write not only a whole word but a whole line of his page without pausing or raising the pen. The child *must* pause, and he may as well raise his pen as not. We should teach him to write each *letter* continuously, and we ought to teach forms which do not require the pen to be lifted. But the continuous movement of the pen from one letter to the next is really a matter of practice rather than of study, and it may with some advantage be left to a later stage. This advice may not be in accordance with some authorities on writing, but it seems to be at least in accordance with the principles which must rule all Infant School methods—the limitations and the characteristics of the child himself. Whatever is in accordance with these is sufficiently justified to the Infant School teacher.

Simplicity of Form.

Simplicity of form, pleasing proportion of parts, and nearly equal thickness of line throughout the letter, are all points which are helpful in writing as well as in reading what is written. Simplicity of form is of special service in the teaching of our capital letters. The best form for these is undoubtedly that which most closely resembles the corresponding small letters, though popular practice may forbid our carrying this principle as far as we should like. Where we cannot relate the capital to the small letter, we should relate the written capital as closely as possible to the printed capital; this, in the case of B, P, T,

and some others, will be a distinct aid to the pupil's memory at first.

Vertical Writing.

One of the debated points which the teacher may settle pretty much according to her own preference, since there is no principle of educational importance involved, is the question between vertical and sloped writing. We have already remarked that excessive slope, as used in the old "copper-plate" style, is a hindrance to easy reading. It is also a hindrance to fluent writing. It, moreover, tends to encourage a sideways posture at the desk, which is objectionable on hygienic grounds. But whether the down-strokes, the only lines usually considered in this question, should be *entirely* vertical, or only *nearly* vertical, is largely a matter of taste. The balance of opinion usually inclines to a slight slope. In the most natural position for writing the eye is a little to the left of the pen, and a line with a slight degree of slope can be followed with the eye as easily as one which is vertical, if not more so. When the writing is vertical, the position of the eye should be directly in line with the stroke being drawn, and in this position the fingers and the pen itself interfere with a free view of the work, unless the head be craned forward over the page. This awkwardness is avoided when the right hand is in its natural place, nearly opposite the line of the right shoulder. But there are, after all, no serious objections to vertical writing on such grounds as these. In later years there will probably emerge a tendency to "back-hand," as it is called, where the down-stroke has the same *degree* of slope as the up-stroke, but in the contrary *direction*. This is the really vertical writing, the *medial line* of the letter and not its down-strokes being vertical. Most people find this style of writing unpleasant to read. Whether or not this is merely due to habit it would be difficult to say; but if we are right in laying down the principle that the writer must consult the convenience of the reader, anything which renders writing unpleasant to read is clearly condemned.

Writing preceded by Drawing.

Writing should not be begun early in the Infant School course. The common and traditional practice of making the "three R's" the staple of instruction in the Infant School we have already discussed, and we have tried to show its absurdity in view of what pupils are and what they can do at the Infant School age. Much drawing should precede writing—drawing of various kinds with chalk, brush, and pencil, free or spontaneous drawing, and imitative drawing after the teacher's model, or from an object. It is time enough to begin writing when we find that the fingers have a fair control of the pencil. It should be regarded as a new variety of drawing—drawing the forms of letters which are used in writing.

Holding the Pencil.

We assume that the lead pencil will be the first medium, though there might be some advantage in beginning with the brush, as being a more flexible tool, and one by the use of which children would learn the curve movements of writing without the drag of the pencil on the paper. The brush is not by any means an impossible tool for writing, however uncommon, and is the one invariably used in schools in the Far East. Its use here would, of course, necessitate the teacher herself learning the technique of the brush in drawing letter forms.

The slate-pencil and slate are barbarisms, and belong to an age when paper was an expensive commodity. The slate-pencil is largely responsible for the ungainly postures of hand which are too common—the projecting knuckles, and the desperate pressure on the point. Slates should be banished from our schools except as a surface for chalk drawing, or as a slab for clay modelling, and even for these uses they are inferior to other substances.

The holding of the pencil, and later the pen, will require some care, even with classes who can *draw* with the pencil

fairly well. The hold must be a little nearer the point, and the same direction—the top pointing towards the right shoulder—must be maintained whatever be the direction of the curve to be drawn. The position of the hand, too, is different. In drawing the long free lines of the drawing lesson the outer side of the hand rests on the paper. In writing, only the tip of the little finger and the “heel” of the hand near the wrist must touch the paper.

Posture of the Body.

The position of the body is also important. There must be no bending or stooping over the paper. If the seat and the desk be properly proportioned to each other and to the size of the pupil, the forearm will rest on the desk without the elbows being spread apart—a posture which renders it impossible to hold the hand and pencil aright. The copy-book must lie well in on the desk, and not too near the front edge, in order that the forearm may be supported. The edge of the book should be parallel to that of the desk. The page should be placed so that the right hand can easily command it—that is to say, immediately to the right of the medial line of the body. Great care must be taken to avoid all ungainly postures and tricks of movement in writing. We must not allow the pupils to twist their heads sideways, or to screw up their features, or to do any of the absurd things which often accompany the first earnest efforts at writing. All movements which are ungainly are wrong educationally; the movements which are proper to the body can be performed with at least some degree of ease and grace. True, we cannot expect much of this at the Infant School stage of writing. On the other hand, we can and must avoid all that is positively ungraceful; the postures should be such that the movements will develop naturally by-and-by into rapidity and fluency.

The use of pen and ink should not be hurried on. If our pupils can write, there is no special virtue in the medium with which they write. One difficulty is enough at a time.

The ink-bottle and the steel pen can very well wait till the primary school is reached. If we admit them to the Infant School, it should only be in our most advanced classes.

Methods of Teaching Writing.

There are two methods of teaching the forms of letters. Complete letter forms should, of course, be used from the first; the elements of letters are uninteresting, as all detached fragments of things are, and if the children have had sufficient drawing practice, the simpler letter forms can be faced at the beginning. The elaborate analysis of form-elements of the Mulhauser method was logically perfect, but psychologically wrong for children.

The " Copying " Method.

The first method is for the teacher to draw the letter on the blackboard, the children watching and receiving the necessary instruction as to where to begin, what slope and proportion to observe, and the like. The children now write the same letter on their copy-books—a blank ruled book in some cases, in others a book with the letter given in the headline. The headline, of course, cannot serve instead of the teacher's model; it is merely to be regarded as an additional aid to the child.

The mental process involved here is practically the same as in copying a drawing from the flat. There is the mental picture carried from the teacher's drawing, which serves to guide the hand. The form then drawn by the child must once more be compared with the model; another attempt is now made, and so on. The difference between this and ordinary drawing is that each form is repeated again and again, not only in order to *learn* the form, but that the hand movement may become more and more *automatic*, and may require less and less of conscious effort, until it becomes entirely automatic, and the pupil's hand can draw the letter without conscious direction. This method we may call the *copying* method.

The "Tracing" Method.

Another method, which has much to recommend it, is the *tracing* method. This method, which would be a false one in teaching drawing, is in complete accordance with the psychology of teaching writing. The forms studied in the drawing lesson have the distinct aim of cultivating a growing sense of form and proportion, and the same exercise is probably never given twice. The aim of writing is totally different. The forms of letters are fixed and conventional, and must be made exactly alike every time. As in spelling so in writing—every error made remains as a stumbling-block in the pupil's memory, and the wrong pattern is liable to be followed at any time. The ideal method of teaching the letter forms, therefore, would be one which would make *errors impossible* from the first. Then every memory pattern would be a true one. There would be no possibility of a pupil going wrong while he believed himself to be right; he could go wrong only when he had forgotten the model. To put it more practically: the influence of a wrong pattern—in writing or in spelling—can be eradicated only by repeated practice of the right form, so that the latter may remain as the stronger mental image. Less repetition will be required, therefore, if no errors occur which require obliteration.

This is the aim of tracing. The pupil is required first to study as before the teacher's model on the blackboard. He then turns to his book, and begins the letter as the teacher did. But now his hand has more than a mental picture to guide it; he finds the form of the letter lightly traced for him on his page, and he has merely to move his pencil over the faint traced line so as to leave a uniform black line behind it. The tracing should be, of course, in a different colour, such as blue. A black dotted tracing is not so pleasant to look at fixedly.

From simple to complex letters, from short to long, and from small to capitals, the pupil advances by carefully-

planned grades. His hand is being trained by practice to move along the traditional forms without any fear of its being trained to forms which will afterwards require to be unlearned. The movements become more easy and rapid and automatic, and still there is no danger of loss of quality. The aim is to train the hand and the eye together, without relying on memory at first, so that the right form will be easier to reproduce than any wrong form. As a mental process this corresponds to teaching spelling through transcription—a practice where error is guarded against—instead of by dictation exercises, which are as ready to implant a memory of the false as of the true.

Collective Teaching.

The teaching of writing, like all other teaching in school, should be *class* teaching. This remark is not superfluous, in view of the habit which is not yet extinct of allowing each pupil to copy his own headline during the writing lesson without regard to what other pupils may be doing. Some are at one page, others, who are slower writers, or who have been absent for some days, are at various other pages in their books. This error, of course, does not occur where blank ruled books are used. It *need* not occur even where engraved headlines or tracing copy-books are in use.

When beginning a book or a page, no pupil should be allowed to hurry on before the others. The essence of class teaching is a rate of progress which is suitable to the average, or rather to the slow average child. The teacher will therefore prevent straggling by announcing when each line or part of a line is to be begun. Otherwise she will find, after a few lessons, that her blackboard demonstration—which is always essential—will be applicable to only a part of her class.

If engraved or traced books are in use, children who are absent must, on their return, pass over the pages done by the others during their absence, and begin the lesson for

the day along with the class, just as they do in reading and in other lessons. The blank page is only a diagram which may illustrate to themselves and to others the blank which absence must always leave in regular education. There may be a waste of paper to the extent of some small fraction of a penny, but this would be saved at too great a cost by allowing the pupil to jog along individually in the rear, and to lose the collective teaching which he is in school for the express purpose of receiving.

CHAPTER XI.

ARITHMETIC.

ONE must deal with *number* in the Infant School ; scarcely, however, with *Arithmetic*. Children like to count things. They are sometimes fond of puzzling their elders with a “how many ?”—and this question is usually asked of things whose numbers are far too great for them to understand. The greatness and mystery have a charm. They rather enjoy speaking of “*hundreds* and *thousands* of things.”

Limits to observe.

No number can have any educational value at this stage if it is too great to be pictured in the mind, for the thinking of the Infant School stage is almost entirely pictorial and concrete. The habit of juggling with numbers which are far above the mental reach of our pupils is largely responsible for the mechanical character of arithmetic in later years, when we see boys making elaborate calculations which have no relation whatever to the real problem presented, and producing answers which are glaringly impossible.

Waste of Time in Arithmetic.

There is no other “subject” in the school curriculum on which so much time is wasted as on Arithmetic—none in which there is so much cry and so little wool. After years of daily teaching and practice, study of complex “rules,” and working of hundreds of “examples,” many of our boys

and girls cannot be trusted to add correctly the columns of an ordinary account book, and cannot perform mentally a commonplace calculation of price such as might be necessary on any small shopping expedition.

The reason usually assigned for the excessive time devoted to arithmetic is its value not only in practical life but as a mental gymnastic akin to mathematics. Probably the real reason has been more directly concerned with *examinations*, at which problems had to be faced such as could never occur in real life, and had to be solved by methods which no practical man ever employs. The traditions of that examination *régime* will probably take some time to disappear wholly from the curriculum, but there is certainly no reason why such traditions should continue to infect the Infant School with the disease of abstractness. A mental agility in calculation unaccompanied by the ability to apply the results to real problems is a wholly useless accomplishment, even as a training in mathematics. However abstract the calculation may be, it should always be available for use, and it can only be so when real conditions are kept in view. This implies, first, the power of grasping the conditions of a problem, and, second, the power of accurate manipulation.

The Value of Accuracy.

The distinguishing feature of number and arithmetic as compared with most other kinds of school work is the importance of *accuracy*. In other lessons the pupil's work may vary through all degrees of imperfection, and may be extremely valuable though never perfect. In arithmetic all imperfection is intolerable. There may be degrees in speed or fluency, but accuracy must be absolute, or the whole practical value is lost.

Not an Infant School Feature.

Now accuracy is not the strong point of Infant School pupils; it is almost without existence in early years. The

mental habit will develop by-and-by, unless it is thwarted by a hasty striving after it which must be contented with an approximation to accuracy—that is, with inaccuracy. Both on account of its abstractness, therefore, and of the kind of mental habit implied in arithmetical calculation, we see that the Infant School period is not a time when this subject is properly “in season.”

We must recognize all beginnings, however. The mental habit is a valuable one, and the practical use of the art deserves some consideration, though much less than we are accustomed to bestow upon it. Calculations are not so often performed by our pupils in after life as a glance at our school time-tables might lead one to suppose; and if the power of calculation were really so important as we assume it to be, we should take care to send out all our pupils perfectly qualified in the form of calculation which is most frequently used—namely, that of simple addition.

Number in the Concrete.

Arithmetic requires familiarity with the idea and with the symbols of *number*. To give this is a proper work for the Infant School. The children must first learn to *count*. Some savage peoples are said to be unable to count beyond five. Our own grasp of number in the concrete goes somewhat beyond this, but not very far, and when we deal with large numbers we are obliged to form them into groups in order to hold them concretely before our mind. We should find some difficulty even in a game of cards were the pips not *grouped* for us in the higher numbers. We distinguish the nine from the ten at a glance, but only because the *picture* formed by the grouping is different. It takes us some time to determine whether a dish of eggs or of apples contains twelve or thirteen, and we do it by beginning somewhere and counting over the units in such a way as to leave none out.

It is only, therefore, in the case of small numbers that we can directly *observe* concrete number. It is by abstract rule

—by arranging into groups, and then counting the groups—that we arrive at larger numbers when the things are present in the concrete. We do not see how many there *are* ; we decide how many there *must be*.

This calculation is an *arithmetical deduction* from the counting. What our pupils have to do in the first place is to know how to count.

Learning to count.

To put it otherwise, our first Infant School lessons in number are designed to teach *the meaning of the words* “one,” “two,” “three,” etc. We put *one* first because it is least, not because it is easiest to understand in meaning. If we had not *two*, we could not arrive at the idea of *one* ; it would be meaningless. But the best way of teaching children the meaning of our number names is always to present them *in series*.

Even our youngest pupils will have little difficulty in learning to count up to five. The ordinary object and other lessons afford sufficient scope for this ; the exercise need not be regarded at first as a separate lesson. The feet of an animal, the leaves of a simple flower, the legs of a table, the corners of a square—everything which can naturally be counted may be counted by way of practice : incidental practice it will seem to the class, but quite purposeful in the mind of the teacher. Her aim in this is to develop the power of counting, and she will watch the progress in fluency which her class is making. To the class, the number of its leaves is merely a property of the plant, just as their shape or their colour is. The teacher has the plant in view too, but she has an eye to further use of its various properties ; its form, its colour, and the number of its leaves will each by-and-by form the material of separate studies—drawing, colouring, and counting.

As the lessons go on, the pupil learns by concrete examples to count up to ten, which makes a convenient halting-place. There may be some advantage, however,

in continuing on the same lines up to twelve. The duo-decimal scale is used in place of the decimal in many of our reckonings, and the fact of our having individual names for 11 and 12 instead of names compounded on the decimal principle makes it advisable for our pupils to master 11 and 12 before we introduce them to the 'teens.

When our pupils have a competent knowledge of the meaning of *one*, *two*, etc., up to *twelve*, and can count fluently a dozen of articles, such as the blocks, or bricks, or sticks which they use in their play-occupations and form-building exercises, we may begin more systematically to develop our number lessons as such.

Analysis Exercises.

The simplest method is to arrange a given number of objects in a given form, so as to bring out the possible groups of smaller numbers contained in the whole. This we usually call the *analysis* of numbers. We are still, however, dealing with things and with spoken words or names, not with symbols or figures. Here, as everywhere, we must have a very thorough acquaintance with the thing before we introduce the new idea of its symbol.

The analysis exercise should assume many varied forms. The number *three* may be studied with small sticks, or blocks, or beans. Each child will take three out of the common store, making sure of his number being correct. These three may be placed as the leaves of the clover (3 as a group), as three boys running after one another in a single file (3 as three units), as two men with a dog behind them ($2 + 1$). *Four*, using similar objects, may next be studied as the panes of a window (4 as a group), as two pairs of horses ($2 + 2$), as three leaves of clover with one for the stem ($3 + 1$). *Five* may be the five fingers of the hand, or five eggs in a nest, the four sails of a windmill with one for the centre, or as pussy and four kittens, and so on. The teacher must try throughout to make the exercise not merely an exercise in counting, but a development from some other lesson or

occupation, or a game with a little story attached, or a game which will recall some story already told, or a suggestion from some rhyme where the desired number is mentioned—"Three blind mice," etc.

The larger numbers will lend themselves to some building or other grouping occupation better than to purely fanciful pictures. A doorway may be built of three (or four) blocks in each vertical column, and one for the lintel; a room may be outlined with sticks, each side having three and each end two.

Analysis and Synthesis.

Every analysis must be followed by *synthesis*, and by comparison with former results, in counting as well as in other lessons. If the blocks have been arranged into one for the cat and four for the kittens, then the four and the one together are shown once more to be *five*. If there were only three kittens with the cat, the whole number of blocks would be *four*, and so on.

Abundant practice and repetition are here necessary to give a thoroughly *practical* knowledge of what our number names really mean, and of the relations which the numbers have among themselves. The grasp of these relations may be further developed and tested by letting the pupils arrange their groups according to their own fancy, and tell the teacher what they stand for. This also forms a test of the pupils' advancement. A pupil may, for instance, tell the teacher that his *seven* blocks are placed to represent father and mother and four children. Such a weakness would not perhaps be discovered while the teacher's lead was being followed. There is room and need also for individual work even in so simple an exercise as this.

Use and Abuse of the Ball-Frame.

A word may be necessary here as to the use of the ball-frame for these early number exercises—counting and analysis. Since the ball-frame has been devised for this

purpose, it might seem that the ball-frame and nothing else is the proper apparatus to use.

We do not think this follows, because at this stage it is the child more than the subject which we must study. The first objection to the *constant* use of the ball-frame—there is no objection to its *occasional* use—is clearly this, that the teacher does the work instead of the children. They must use not only their eyes and their ears but their hands, if the lesson is to be a thoroughly suitable one for them. This objection might be got over in one way, by supplying each child with some form of ball-frame on a small scale, designed perhaps by the teacher and executed by the senior boys in the school workshop—a small wooden frame with a few wires, each with ten or twelve coloured glass beads. This would be very attractive, and there might be some advantage in occasionally using such frames.

Even if each child had a ball-frame, however, it would still be unwise to use the same apparatus for every number lesson. It would lead to a greater ability to count those familiar beads than to count other things; for a purely extraneous connection between things often gives rise to a connection between mental ideas which hamper the free use of these ideas. Children who always practise counting on the same objects, whether these be their own fingers or balls on a frame, become helpless when counting without these familiar aids.

Advantages of Variety in Apparatus.

Number is a property which applies to all classes of things alike, and the more we can vary the kind of things to be counted the more easy does it become for the children to consider number *in the abstract*, which is essential to the first steps in arithmetic.

The play element in early number-groupings to which we have referred is hardly possible if we keep to the ball-frame—or, indeed, to any one set of counters. The more variety we introduce into our apparatus the more variety

we are likely to secure in the imaginative side of the exercise, both from ourselves and from our pupils.

We have also to take into account that tendency of children—perverse as it may often seem—to use objects for everything but their proper use. This is the essence of that make-believe play which is so natural at the Infant School stage of child life. It not only gives the charm of variety to an exercise which more than any other, perhaps, suffers from monotony, but it introduces within sane limits the element of topsy-turvydom which has a great charm for the young. From whatever point of view we look at it, we see that variety in the material of our early number lessons is of some educational value.

The Symbols for Number.

The next step is to teach the *symbols* for the number names, which we may now assume to be thoroughly understood. We have two distinct sets of symbols. There is the ordinary *word symbol*, which represents the sound of the name; and there is the *Arabic numeral*, or digit, or figure, which *means* the number. Probably the teacher will confine herself to the latter; the spelling of our number names is somewhat irregular and difficult, besides being useless for the end we have in view at present. We need not deal with the Roman numerals in the Infant School, except, perhaps, as they occur in chapter headings.

The digits are a peculiar set of symbols, in that they represent *ideas*, not sounds, just as the Chinese characters do. The symbols 1, 2, 3 have the same *meaning* whether a man calls them "one, two, three," or "un, deux, trois," or "ein, zwei, drei," or "un, due, tre," or any other names which various languages have attached to them.

All this is, of course, no concern of the child. We need only explain that these new signs are not words or letters, but *figures*. This will be accepted as a sufficient excuse for the curious behaviour of these signs, so different from those which represent sounds,

Learning the Form of the Figures.

Taking the figures in their order, and hastening very slowly, we require to write down the *form* on the board, and to give its *name*; its meaning is already known. For the sake of distinctness of idea, however, it will be useful to put down also the number of dots or crosses which corresponds to its meaning.

The form of each figure must be learned, as all forms are, not only by looking but by doing. The pupils must draw them, as they did the letters, with brush, or chalk, or pencil, or with each in turn. This is essentially a *writing* exercise, and the same principles will be followed as in teaching the forms of the letters. The point to avoid is teaching the forms before the meanings and the names are thoroughly familiar.

Number Drill Cards.

At this stage a useful exercise of the drill order is often given by means of special cards with a number of spots of colour, varying from one to ten or twelve. Each pupil has a packet of these cards before him. The teacher puts down a figure on the blackboard, and each pupil is required to pick out from his packet and to hold up the card with the corresponding number of spots. There are, of course, no *figures* on the cards, but only spots.

The same cards are used for the next step, which is analysis of numbers again, but this time in combination with the *figures* representing the numbers. The teacher puts down the figure 5, and the pupils first select and hold up the card with five spots. They are next required to look out a pair of cards which *together* make up five. Some will hold up those with 4 and 1, others those with 3 and 2. The teacher will now write on the board these results, either as $4 + 1 = 5$, and $3 + 2 = 5$, or as rudimentary addition sums, which form will be of use in view of what is coming. In this exercise the teacher has the synthesis in view more than the analysis, but both steps are always essential.

3	4
2	1
5	5

Next we come to a further analysis of numbers into more than two parts. For example, $6 = 1 + 2 + 3$; $7 = 1 + 2 + 4$; $8 = 1 + 2 + 5$; $9 = 2 + 3 + 4$, etc.

After a few lessons of this kind, the pupils will be prepared to perform similar combinations of numbers without the previous analysis. They will be required to pick out certain cards, and to hold up one with the total on it. For example, they will look out those with 1, 3, and 5, count the spots on them all, and hold up the card with the total number. This is preparatory to the practice of addition—that is, the combining of numbers *without* concrete things to count. Addition is the first abstract operation with numbers, and will perhaps remain the most difficult one. It is certainly the most useful, and the one we are in after life most frequently called on to perform.

Mental Addition.

Addition, like all “rules” in arithmetic, must first be familiar as a mental process. It is largely a matter of memory with the children at the first. They are familiar with the fact that five things can be grouped into three and two. The next step towards formal arithmetic is to *remember* the fact that three and two make up five, whatever the things may be. This is *mental addition* in its most elementary form. Before we take even this step away from the concrete, we must have the class familiar with somewhat larger numbers than those they are to add; and as the numbers become large, the objects required to represent them become troublesome to handle.

Grouping of Numbers concretely.

We may then make use of the principle of *grouping*, which is represented symbolically in our decimal scale of notation—that is, tying up or grouping the counters in *tens*. Some practical work with small sticks may be done with a special view to making this familiar.

The child already knows twelve or a dozen; let him

now have one or two sticks more than the dozen. How are we to count these? We tie up not the dozen, but *ten*, and go on counting what we have over the ten; hence the names *thirteen*, *fourteen*, etc. We may continue adding on sticks till we have another ten; we tie up this *ten*, put the two together, and say "two tens," or *twenty*. As more are added we count only what is outside these bundles, and say, "*twenty-one*," "*twenty-two*," and so on. A considerable fluency in this counting and use of concrete counters should come before learning the notation which represents the process.

Notation of Grouping.

Next we must show the notation for these numbers, having made sure that the numbers themselves are very thoroughly understood and familiar. Our figures do not follow our counting names; there is no *figure* corresponding to ten, eleven, or twelve. As soon as we pass nine in *number*, our *figures* assume that we tie up the bundle of ten and set it aside to the left, just as we have made the pupils do in learning to count. Hence we put down to the left (using a vertical line on the board) 1, meaning one bundle of ten—thus, 1|; and to show that we have no loose sticks over, we fill in the right-hand place with a cipher, to mean "empty," thus 1|0.

We now go on to the higher numbers, putting down the "one ten," and the *one, two, three*, etc., for the number of loose sticks, until we come to nineteen. Then our figures require us to take the tenth stick along with the loose 9 and tie up a second bundle of ten, marking "2 tens and none over," or 0 in the place for the loose sticks—thus, 2|0.

It will not be necessary to carry on the concrete accompaniment much further—probably not beyond 30 or 31, even if so far. The symmetry of the process will quickly strike the pupils, and they will rapidly learn both to count orally and to interpret the signs for all our two-figure numbers. The hundred should be left severely alone for some time.

To avoid "Counting" in Addition.

The chief danger to guard against in the early addition exercises is that the results are apt to be got not by *adding* but by *counting*, which, even when performed apart from visible objects, is still in its essence a concrete and not an abstract operation. This vice of counting up by units is generally due either to attempting to teach addition at too early an age, or to pushing on too rapidly, or to both errors combined. We must accordingly take many precautions in order to make sure that when we ask children to add, we are asking them to do what is well within their powers. We shall find grouping exercises very useful here.

Grouping in *pairs* is useful in developing the perception of numbers as even and odd. By a little practice in this the pupil will soon become expert in counting by *twos* instead of *ones*, a very useful operation in addition, and to run up the even numbers or the odd numbers orally, as far, say, as twenty or thirty. A series of groups which is very readily learned is the *doubles* of numbers—two twos, two threes, two fours, etc., up to two tens. Counting up by threes is much more difficult; fives make the next easiest step—5, 10, 15, 20, 25, 30, etc. Threes should be practised, however, at least as far as 12 or 15. Another mental practice is counting backwards, first by *ones*, and then by *twos*, in order to recognize numbers "one less than—" or "two less than—."

Now we have to make use of those simple groupings in order to find results which come *near* to any of them, and to show how we can best add numbers by remembering simple results already explained. Thus $3 + 4$ will be treated as "two threes and 1 more;" $4 + 5$ as "two fours and 1 more," etc.

Special Use of 10.

As *ten* has so important a place in our notation, many teachers give a special study to the groups into which

it divides, or the component parts of ten. They require rapid answers as to what is needed to "make up ten" from 9, 8, 7, etc. Frequent drill results in the pupils being able to give without hesitation or error the complementary number to any number mentioned. Then when they are required to add 6 and 6, or 6 and 7, instead of thinking of two 6's they make the 6 or the 7 up to 10, and the remainder of the six is the unit in the sum. Thus $6+7$ are treated as $7+3=10$, and the remaining 3 makes this up to 13. There is much to be said for the method. It demands perhaps a somewhat more developed power to begin with, but the mental habit is of the utmost value. It will be of great service when carried into compound addition in later years; the pupil accustomed to it will naturally solve such a problem as adding 8d. and 5d. by making up the 8d. to 1s., which requires 4 of the 5 pence, and he will then at once see that the answer must be 1s. 1d.

Subtraction and Addition connected.

After what has been said of the necessity for analysis and synthesis proceeding everywhere by equal steps, side by side or alternately, so that they may combine in giving clear conceptions, it should hardly be necessary to say here that addition and subtraction must in all these preliminary mental and oral exercises move in company with each other.

This plan can be followed in all the exercises suggested above. Counting backwards is subtraction, whether it be done by ones, or twos, or threes, or fives, or tens. Learning the doubles implies learning the halves, if it is rightly done. If $4+5$ make nine, then 4 from $9=5$, and 5 from $9=4$. In the special use of ten referred to, the determination of the complementary number, when any number is given, is rather a matter of subtraction than of addition.

In view of the further development of subtraction, mention may be made here of a method which is based on this familiarity with ten and its parts.

The method is this: when a pupil is subtracting, say, 8 from 17, he subtracts mentally the 8 from the 10, and the complementary part, 2, added to the unit, 7, gives the answer. This is analogous to the method which is undoubtedly best in compound subtraction. If a pupil is subtracting, say, 9d. from 1s. 4d., he subtracts the 9d. from the 1s. and adds the complement, 3d., to the 4d. for his answer. The principle is sound and useful in the simple as well as in the compound rule. In these remarks, however, we are anticipating considerably.

The Use of the Slate.

Our pupils are now ready to make a beginning with addition and subtraction on the blackboard and on their—*slates*, must we say? or may we use the word “notebooks” or “writing tablets”? It may be convenient, while we are dealing with arithmetic, to use the *word* slate, since that is the traditional surface for the pupil’s work. But we are dealing with children in the Infant School as well as with arithmetic, and we should like the word “slate” here to mean some arrangement of paper suitable for work with the lead pencil, and not a slab of stone such as the unfortunate children of former generations were condemned to use, but which ought to be on the roof of the school and not inside the classroom.

How many of us really like to use a slate? As a wall blackboard for chalk work it has some good points, though even there it is not the best. We ourselves find paper and pencil the best medium for written calculations: does it not, then, seem somewhat barbarous, or at least uncivilized treatment of little children to give them materials which we ourselves find repellent?

The moral influence of the slate is bad. The facility of erasure cultivates carelessness and inaccuracy, and lends itself to even graver errors where supervision is lax. The fact that space costs nothing leads to great waste of both space and time in the methods of calculation practised,

while a judicious regard to economy in paper would do much to develop shorter and more practical methods of work and more use of mental calculation. It may be possible to maintain cleanly habits where slates are used, but one rarely sees this done. Too often the slate leads to habits that are not merely untidy but decidedly insanitary. If slates are used, it must be remembered that their use involves the provision of proper materials for cleaning them, of which water is the most indispensable.

Substitutes for the Slate.

Various forms of blank paper books and tablets have been designed for use in place of slates, but there does not seem to be anything of outstanding merit or utility yet in the market. Most of the school notebooks are specially prepared for pen-and-ink work, and this involves the use of paper which is decidedly expensive. For pencil work a very cheap paper is good enough, provided it is not too thin, and a somewhat rough surface is much better than the fine polished surface usually given to writing papers.

The book form is better than the pad or tablet, as both sides of the paper can be used, and there is less temptation to waste by tearing off a spoiled sheet. In towns it should be quite possible for teachers to design a form of blank book which any good stationer could make up at a very small cost. There is a field here for enterprising school stationers, as many teachers are quite alive to the objectionable nature of the school slate, but are unable to obtain a satisfactory substitute. This state of matters is not creditable to our inventiveness in educational matters.

The Difficulty in "Slate" Addition.

When we come to "slate" work in addition then (using the word slate, as we have said, to mean not a real slate but the material for which the slate has been so long used as a cheap and nasty substitute), our chief difficulty

will be not with the addition but with the *notation*. Addition, if we have been acting wisely, will be a quite familiar process before we begin with slates. Our pupils should have no real difficulty with the numbers, for we will use at first numbers that are smaller than those with which they have been dealing mentally. They will have no difficulty with the forms and meanings of the figures, for we have given them practice enough in interpreting and in writing these symbols. Their difficulty will lie in the *arranging* of these symbols, so as to make them mean what we wish them to mean, and to lend themselves to use in adding and in expressing the result. The difficulty, in short, ought only to be one of notation.

“Carrying” in Addition.

This difficulty will first become acute when the process of *carrying* is being learned. In the example on the margin there are not only $4 + 9$ units to add and $2 + 1$ tens; there seems to be *another* ten—that which results from the addition of the units, and which does not appear anywhere except in the “answer.”

$$\begin{array}{r} 19 \\ 24 \\ 43 \\ \hline \end{array}$$

We must take this difficulty step by step, and in presence of concrete counters at first. Let us add the units first. There are nine and four. The pupils know the sum of these—thirteen. They also know that we have no figure for thirteen; it must be written in a form which means 1 bundle of ten + 3 loose units (or sticks, to revert to the concrete illustration). But we have in the numbers given already $1 + 2$ bundles of ten. If we lay them out on the table the sum is evident—there are *four* bundles now, and the three loose units. This is represented on the board by putting the figures which mean the *number of bundles* to the left of a vertical line, drawn or imagined.

$$\begin{array}{r} 9 \\ 4 \\ 13 \\ \hline \end{array}$$

It will be advisable to carry on the work on the black-board *pari passu* with the concrete operation on the table. The horizontal line, which we *always* draw, marks off that

part of the table on which the sticks are laid when we count them up in *one number*. When we have placed on this part the one bundle and three loose sticks, we must next place the three bundles beside the one, and when we count them we find there are now four bundles of ten. We may show this by a second addition of the tens.

We can do it more shortly by holding in one hand the new bundle we have made while we lift the other $2 + 1$, and then lay the whole down at once and count them as 4. We literally *carry over* with us this new bundle of ten. Thus we may explain by a concrete act what we mean by *carrying* to the next column.

We may—perhaps we must—allow our pupils at this stage to write, in a small figure below the tens *given*, the new ten or tens to be *carried*. Some teachers write this at the *top* of the column, but in view of the time when our pupils will be able to dispense with writing this “carried” figure, it is better to place it where it will be taken first in the addition. If taken last, there is more danger of its being omitted in adding when it is not written down.

If we succeed in making this process appear as a natural representation of what we actually do with the things in counting, it will be understood without much effort. It will be all the more easily remembered if it is clearly grasped, but only abundant practice will make the habit easy and permanent.

If we manage this well with the tens, there should be no need to repeat the concrete illustration when we come to deal with the hundreds’ column. Children are quick to follow analogy—too quick sometimes when the analogy is only apparent. Here, however, the analogy is perfect.

At the same time, we must repeat that “hundreds” seem to be out of place in an Infant School, unless perhaps in the *answer* to an addition sum. We can get all the practice we need out of units and tens, and we should not push the abstract arithmetic to a point where it ceases to have

a real meaning—that is, to deal with numbers which can only be mere names to the children, and do not represent anything which they can conceive after their pictorial manner of conception.

Addition before Subtraction in Slate Work.

As we have already remarked, we must try in our arithmetic teaching to keep addition and subtraction as nearly abreast of each other as we can. But in *slate* work we should allow addition a good start of subtraction at first. This is in order to secure that the notation difficulty, or the principle of “local value” in figures, may be thoroughly familiar before we introduce the special difficulties connected with subtraction.

For if our pupils have been well taught, and have a thorough grasp of the way in which the parts of an addition sum represent concrete things, they will feel the subtraction difficulty even more perhaps than a class which has been taught by rule of thumb. Such a class regards figures as simply things in themselves, which are to be manipulated according to certain rules, given *ex cathedra* by the teacher and learned by rote. This class will find no more difficulty in subtraction than in addition; it is merely a new game with rules of its own, to be learned in the same barren way as the former. Since neither of the games has *any* connection in their minds with reality, the less direct connection of the latter does not count as a difficulty.

The Difficulty in Subtraction.

Let us see what is the special difficulty of a subtraction “sum,” to use a contradictory but common locution, as compared with one in addition. If we write the numbers 45 and 21 in order to add them, they represent *two groups* of things to be thrown into one new group whose number will be represented by the answer 66. But if we now write the same numbers to be subtracted, they do not represent two given groups of

$$\begin{array}{r} 45 \\ 21 \\ \hline 66 \end{array}$$

actual things. There is only *one* real group. The lower line represents a group which does not yet exist. We have

$$\begin{array}{r} 45 \\ 21 \\ \hline \end{array}$$
to break up the group represented in the upper line into two new groups, one of which must be as represented by the lower line, and the other as represented by the answer. This *ought* to be felt as an insoluble difficulty by our pupils.

There is a way of representing graphically the concrete problem of subtraction, so that both lines of the "sum" will have concrete equivalents; but this involves a view of subtraction which is too difficult for the Infant School. We may draw two lines, one representing the upper number and the other the lower, while the *excess* of the one over the other is to be represented by the answer. This mode of using the concrete is, however, only suitable at a stage when the principles of our notation are thoroughly familiar, and no longer present any difficulty to the pupil.

In the example given, the problem is to divide 45 into two parts, one of which must be 21. The pupils already know that they had better begin with the units, though

$$\begin{array}{r} 45 \\ 21 \\ \underline{24} \end{array}$$
at first this is not essential; we begin with the units merely in order to do *two things at once* by-and-by —(1) to subtract, and (2) to decompose our tens into units when necessary. This reason need not be given to the children.

Concrete Illustration.

We will first lay out sticks to represent the 45, 4 bundles of ten and 5 loose. Dealing with the 5, we must put aside *one*, and place the remainder in a new group, to be counted and its number written in the proper place for the answer. Coming next to the bundles of ten, *two* are to be placed aside, as the problem prescribes, and the remainder again placed in a new group, to be counted and its number written down. We find that these new groups are 2 bundles of ten and 4 loose sticks. The group represented by the top line has *disappeared*; we have on the table only the lower line and the answer.

A very few concrete operations, accompanied by the writing of the figures, will now serve to make the class realize what they are doing when we require them to work subtraction problems on their slates. For a time they will go on their way rejoicing—rejoicing in the thought that subtraction is easier than addition, because they have only two lines of figures given them to deal with, and no “carrying” to trouble about. Then there comes a day when they realize that “carrying” may intrude itself into subtraction also.

“Carrying” in Subtraction.

It is somewhat doubtful whether our pupils should make this discovery in the Infant School, or wait for it until they enter the Primary School, but tradition may decide the point for us. We may find it necessary that they should face this rather abstract matter before they leave us for that land of abstractions; in fact, it may be an act of kindness for us to take them thus far on the way, while using all the rational methods we know for making a connection between the concrete and the abstract—a process generally better understood in the Infant School than elsewhere.

Well, then, some day when our pupils have acquired stability enough in their arithmetic to stand the shock, we present them innocently with such a problem as $45 - 27$ to solve, and ask them to do it orally with us on the blackboard. The first pupil begins gaily, “Seven from five—” and he ought to conclude, “You can’t!” That is the natural conclusion for an intelligent child at this stage. He has been accustomed thus far to consider the units alone when subtracting in the units’ column. He must be allowed to feel that there is a real difficulty here which he cannot yet solve.

The Concrete Process.

We now call the pupil’s attention to the fact that there is more than 5 in the upper line, and once more we take to

our concrete illustration. We bring out 4 bundles of ten and 5 loose sticks, and lay them on the table. The $\begin{smallmatrix} 45 \\ 27 \\ \hline 18 \end{smallmatrix}$ class will now see that there are plenty of sticks to give us the 7, although only 5 of them are *loose*. We invite suggestions, and are told to undo one bundle and lay the sticks loose in the units' place; we can now remove the 7 to their destined place, and put aside the remainder to count for the answer. Then from the bundles of ten we remove the 2 prescribed, and place the remainder to be counted for the answer. Our answer now stands as 1 bundle of ten and 8 loose sticks.

(At this point we may pause to note the simplicity of the method already referred to on page 287. The required 7 would be at once taken from the loosened ten, and the remaining 3 put along with the loose 5 for the part of the answer which will appear in the units' place. Pupils trained on that system never require to subtract from a number greater than ten, and ten is the number from which they can subtract most readily.)

We have now to translate into its abstract arithmetical form the operation just performed—that of not only dividing the given group as required, but breaking up one of its bundles of ten during the process. Turning to the sum on the blackboard, we ask our pupil once more to try the subtraction, after having seen from the operations with the sticks that it is really possible.

The Form of Expression.

The pupil may require help in arriving at the *form of expression* which we intend to be followed in future exercises. This will be given by the teacher or by other pupils, and we arrive at the point where he tells us to take a ten from the four to make the 5 into 15; then 7 from 15 leaves 8. Then he goes on to take the 2 tens from the 4, leaving 2 tens. But he is reminded that there was a ten taken away already in the actual operation; we must recognize this in the figuring also. The pupil sees that not only the 2 tens

but also the 1 decomposed ten must be subtracted from the 4 to give the true answer ; the subtraction then is not " 2 from 4," but " 3 from 4."

An Alternative Form.

We must pause once more to note that many teachers follow a slightly different method here. When they take a ten from the four to break it up into units, they rewrite the 4 as 3, and when they come to the tens' column they subtract " 2 from 3," instead of " 3 from 4," as above.

$$\begin{array}{r} 435 \\ 27 \\ \hline 18 \end{array}$$

The method is quite sound, if rather more cumbrous. In testing the accuracy of subtraction in young classes, we have found on the whole, however, that there were more mistakes made by classes where this method was followed than by those taught on the method previously outlined. It may be that the analogy with addition, though merely apparent, made it easier for the pupils to remember to call the 2 "3," than it was for the other pupils to remember to decrease the 4 by 1. Probably the individual preference of the teacher will decide between the methods, however, and not any real balance of advantage.

The former method corresponds, stage by stage, with the actual operation performed with the bundles of sticks. To make that operation correspond with the latter method, we should stop when we have taken away and broken up the bundle of ten, and before taking the 7 from the 15 loose sticks we should have to call the attention of the class to the fact that now we have only three bundles of ten left. This is really a quite unnecessary interruption. It does not matter in the meantime how many are left ; we shall find that out when we have finished with the loose sticks and come to count the tens. In this respect the method first described is the simpler, as representing a simpler concrete operation.

We may, if we like, write the 1 ten to be subtracted along with the 2 close beside it, as we did in "carrying"

in addition. This makes the apparent analogy still closer.

$\begin{array}{r} 45 \\ 27 \\ \hline 18 \end{array}$ But we must not regard it as in any sense a true analogy; nevertheless, the similarity of the process is one of the points which help to make this method less liable to errors of forgetfulness than the other.

Errors regarding "Equal Additions."

The method of "carrying" recommended here is sometimes described as depending on "equal additions," and on that account it is sometimes objected to; the second method is recommended in its stead, as being based on "decomposition," which is rightly regarded as the better method. It seems to be assumed that by the first method we get at the difference between 45 and 27 by adding 10 to each number. This is, of course, absurd; to add 10 would merely make the problem 55 - 37, and would leave the difficulty with the units precisely where it was. The only way to perform the operation is by breaking up a ten in the upper line, and no addition is required for this.

To speak of equal additions is to forget that there are not *two* concrete quantities represented in the problem, but only *one*—the upper number—and that the lower number is to be separated from this, leaving the answer. There are not two groups of sticks represented, 45 and 27, but only 45. The subtraction represents the removal from this of a group of 27, and counting up what remains.

The objection may arise that the 1 ten which we write below the 2 does not exist in concrete form anywhere. No more do the 2 tens which appear in the problem. Both are written there to remind us of the *conditions* of the problem. Both the 1 and the 2 must come out of the 4 which represents the concrete group, and there is no good reason why the 1 and the 2 should not be *subtracted* at the same time. The abstract process called subtraction corresponds not to the actual *lifting away* of the prescribed number, but to the *counting of what is left*; and this counting

need not be done in two stages, as it is when we teach the pupils to take "2 from 3" instead of "3 from 4."

What "Equal Additions" requires.

The theory of "equal additions" depends on the view of subtraction which we mentioned already as unsuitable for this stage—the view of it as *measuring the difference between two quantities*, instead of counting the remainder when a certain quantity has been removed from another. This view must be taken in certain types of problem by-and-by, but is neither necessary nor advisable in the meantime.

Even if we wished to represent subtraction as a means of finding a difference, and if we wished to explain the theory of "equal additions"—that the difference between two quantities is unaltered by equal additions being made to both—we should find that 10 is the one number which we should *never* add to each quantity. If we wished to use equal additions to find the difference between 45 and 27, we should find that adding 10, as we said already, left us with the problem of finding the difference between 55 and 37, which is no easier, if not more difficult. In this particular case we should probably add 3 to each number, and then the problem becomes $48 - 30$, and we have only one place—the tens—in which actual subtraction is required. That is to say, we should always add such a number to both as when added to the smaller number it makes it easier to handle. But this question of equal additions is not a question for the Infant School. To suppose that this is the basis of our method of subtracting 27 from 45, in which we take "3 from 4" in the tens place, is simply due to forgetting what concrete facts are represented in our figuring.

Addition in the Form of Multiplication.

Multiplication and Division are generally regarded as being "rules" to be studied, or at least practised. in the

Primary School, and not during the Infant School period. To a certain extent this is true. But if we teach addition, we can hardly avoid multiplication; and if we teach subtraction, we are equally unable to avoid division. Multiplication is merely a special case of addition, and the easiest case which ever occurs—that form of addition in which we have to add on the *same* number each time instead of a different number. Part of our addition drill, therefore, will certainly consist of building up a little multiplication table. It will not be a big one; it will never go beyond the limits of numbers which our pupils can easily deal with mentally, and we shall not attempt to bring it into much use in our slate work, if at all.

The best use of multiplication at this stage is in solving little practical problems, such as, “How many eggs in three nests, 5 in each?” and simple money calculations—in pennies and in halfpennies by preference; shillings are not yet very familiar coins. A foundation can be made for even more advanced rules, in problems such as, “4 rows, 5 in each, how many in all?” which easily leads to simple mensuration problems like, “3 inches long, and 4 inches wide—4 rows of 3—how many squares?”

In such little problems the children will enjoy using the short cut of “3 fours” instead of 4 and 4 and 4. It is better at this stage to say “3 fours” than “3 times 4.” The table should, however, be used so as to read either way—“3 fours” or “4 threes.” The upper limit of such problems will depend on what the teacher finds practicable without the pupil losing mental hold of the concrete number. Treated in suitable groups, numbers up to 20 or 25 may be handled by the pupils without the danger of their becoming mere “rule” calculators.

Subtraction in the Form of Division.

Along with or soon after these problems others which are really division exercises can be used. Division is, of course, a special case of subtraction—the case in which

we subtract the same number continuously as many times as possible ; but the children will probably grasp division more easily as being the reverse of multiplication. (Neither *name* need be mentioned, however.) Thus, if we take an example in multiplication—"3 rows, 4 in each ; how many ?" we can reverse it thus, "12 boys in 3 rows ; how many in each row ?" or in prices, "10 pennies to spend on books at twopence each ; how many books ?"

In every case the problem should be a *concrete* one and a *probable* one. Much evil is done in teaching arithmetic by giving problems such as not only have no evident connection with real life, but are clearly incompatible with what the pupils already know—problems containing absurd or improbable prices, or quantities, or denominations in "compound rules," and the like. A pupil cannot take so much interest in the accuracy of an answer which means nothing as in one which represents some familiar reality.

CHAPTER XII.

DRAWING.

WE have already mentioned Drawing as a play-exercise, and as a manual occupation of value to the teacher who regards doing as a necessary finish to learning. We must now consider it somewhat in more detail as a school "subject" or discipline, a means both of hand-training and of mind-training—which, after all, are not two trainings, but only two aspects of that training of the whole individual which is implied in education. Drawing occupies so important a place in our school curriculum that it requires to be studied in detail as to its methods and its possibilities—the more so on account of the narrow conceptions regarding it which prevailed not so long ago, and the absurd requirements which were demanded from pupils.

A Twofold Problem.

In teaching drawing we have a twofold problem to face. There is, first, the *perception* of form, and, second, the *expression* of the form perceived. Putting it in more popular form, there is first the training of the *eye*, and then the training of the *hand*. The two forms of training must be carried on together, for the eye is concerned not only with the perception of the form to be copied, but also with the perception of what the hand is producing, and the comparison of this with the model.

Earliest Practice.

Early drawing exercises, as we have already said, may well take the form of amusement rather than of work ; the youngest children enjoy a time of perfectly free drawing, in which they have no feeling of effort beyond what their own purpose imposes upon them. Even in those free drawing exercises the teacher may do something to prepare for the drawing lessons which will come later. She will help the children to arrange their materials properly, to place their drawing-board in the best position, and to grasp the brush or the chalk in the right way. She will, in short, try to prevent the free drawing exercise from leading her pupils into any habits which will need to be corrected afterwards. But for the rest she will allow each child to please himself, unless her aid is specially asked for.

In the previous discussion of these exercises, we have noted that there is little danger of looseness of style being developed by them if the other work is properly co-ordinated. The study of form extends through the reading and writing and nature and number lessons. From all these, a certain education in drawing is being derived by the class.

Again, the children see their teacher draw on the black-board every day, and many times a day, and they come gradually to perceive, without much conscious thought on the matter, and without any instruction whatever, that drawing involves a certain technique and certain conventions. Drawing is a direct visual language which is to be understood by all, and must therefore conform to a certain amount of convention. In their own experiments the children will attempt to follow the necessary conventions, but with so little success that some drawings may be unintelligible to any one except the artist himself.

Convention and Originality.

This is a point which is sometimes apparently overlooked by the thorough-going advocates of making drawing purely

a free exercise, without any formal teaching. According to some theorists, children should be encouraged to begin with drawing the human figure, and to go on drawing as they will, without **any** advice or correction. This is said to develop originality, whereas the *teaching* of drawing is said to prevent that spontaneity which we desire to see in all such work. There is a considerable proportion of truth in this view, but not unmixed with error. It leaves out of account what we mean by originality, and it ignores the necessary element of convention in all art. The highest degree of originality is possible within perfectly definite limitations, and the originality of an artist can be fully appreciated by others only when those limitations are observed. The most original of writers does not invent a *language* of his own; if he did, he would be quite unintelligible to his readers. The scope of originality, even that of the highest genius, lies in the *use* which is made of the common language. The originality of the thought does not suffer from its being expressed in the common tongue. Were we to abstain from teaching the common tongue to our prospective genius lest we should hamper the originality of his thought, we should condemn him to spend, in finding it out for himself, an amount of time and energy which could have been spent to much better purpose in using it after it had been taught to him.

A Visual Language.

The case of drawing is almost a parallel one. The free play-exercises, which we should introduce as a preparation for or an accompaniment to the early stages of our more formal course, are exercises which may be compared with the early babblings and vocal experiments of infancy, foreshadowing the use of articulate speech copied from those around. In addition to those experiments, there must be real teaching of drawing, in order to give the pupil command over his materials, and in order to teach him the recognized language of line and of colour, of light and of shade.

His eye must also be trained to perceive proportion and harmony, and relation of parts in a whole, even as his ear is trained to observe sounds and inflections, and to note the grouping of sounds in a word and of words in a sentence. His hand must be trained according to its growing power, following the natural growth of its development, to make visible on his drawing the facts which his eye has observed, just as his voice is trained to utter aright the words and the sentences which express appropriately the ideas he has gathered in his language lessons.

The Function of Imitation.

But in neither case is mere imitation the best part of the teaching. In the case of language we encourage the pupil to make a personal use of what he has learned by imitation, for the purpose of expressing his own thoughts and feelings and questions. In the case of drawing the growing power over form and line and mass must also be used to express the pupil's ideas. No amount of parrot-like repetition will give a real power to use speech for its legitimate purpose; while too much of it is sure to result in the pupil mistaking the means for the end, and resting content with words in place of ideas. So in drawing, too much of copying and following the teacher's model is sure to result in utter inability to do anything else. The hand may be trained to a certain kind of reproduction, and the eye may be trained to the observation of a certain class of facts, but the *child* is not being trained as an individual; the exercise does not lead to any increase of power to express his own ideas and observations. And this reacts on the mind: the surest way to develop the pupil's power of forming new ideas is to take care that he develops the power of expressing the ideas which he now has.

The Educative Value of Expression.

This is true of all forms of expression alike—speech, writing, and drawing. The pupil who has much difficulty in expressing his thoughts, whether from lack of training

or any other cause, is usually the one whose thoughts are rarely clear enough to admit of definite expression. The development of thought and the expression of thought are bound to each other in the most intimate way; for the expression is not a mechanical process, but is itself also a function of thought. The more practice we give our pupils in expressing their thoughts and ideas and observations, whether in oral or in graphic language, the more likely are they to form ideas and to make observations which are worth being expressed. This worth is, of course, to be estimated solely from the point of view of the mental growth which it indicates, and which it promotes, and not from the intrinsic value of the thought expressed. It is a relative and not an absolute worth. And when we speak of thoughts or ideas in connection with drawing, we must, of course, be understood to refer to such ideas as are proper to that mode of expression—to those ideas of form, colour, proportion, and relation of parts in an object, which permit of graphic representation by the means at the disposal of the pupil.

The Combination of Both.

When we try to estimate the function and the importance of training or imitation and of spontaneous invention respectively in drawing, we must conclude that each has a place and a value of its own, and that neither mere imitation nor mere free drawing can provide the education which drawing should afford. Enough has been said, probably, to show that both extremes are wrong, as extremes usually are. Our clear duty is to give our pupils a command over the elements of the language of graphic representation, which we call drawing. At the same time, this is only an instrument, and the use of an instrument is best learned by using it for real ends, not by mere drill in handling it. The proper use of this special instrument is the expressing of the pupil's own ideas, and only in so far as he can use it for this purpose is he able really to use it at all.

Straight Lines or Curves?

Very early in her drawing lessons the teacher may have to decide whether to begin her course of hand and eye training with *straight lines* or with *simple curves*. The case in favour of curves is that they are more easy to draw; children naturally scribble elliptical curves when they wish to enjoy the spoiling of a sheet of clean paper by covering it with their own designs. The case against the straight line is that it is the most difficult line to draw, and that when an absolutely straight line is needed in a drawing, the wise man, whether artist or artisan, will draw it with a ruler.

Turning to the other side, it must be admitted that, while a *simple curve* is easy to draw, the exact curve of the copy or the model is at least as difficult to draw as a straight line. If the curve be part of a circle, and if accuracy is important, the wise man will use compasses. The only reason why it seems more easy to reproduce a curve than a straight line is that the difference which may exist between the curve and its copy is less plain to be seen by the untrained eye than the difference between a straight line and a crooked one; the mistake in form is there, but it is not noticed. Hence the apparent ease of copying a curve. The straight line, again, is the most easy of all to criticize; the eye detects in a moment any deviation from rectitude; hence its difficulty as an exercise in drawing.

The Value of the Straight Line—

Now it is just this fact regarding the straight line which constitutes its chief educational value. It provides a better basis for *eye-training* than any other form. And eye-training, or *perception* of form, is really a greater difficulty in the teaching of drawing than hand-training or the *reproduction* of what is perceived. Hence we shall probably secure more correct judgment of form from our pupils by drawing at first simple objects whose form can be expressed by straight lines.

In developing Judgment.

The objection might be made that, since our pupils cannot draw *straight* lines, we are likely to debase their judgment and blunt their perception of correctness by asking them to draw forms which can never be accurately drawn. We might answer that we are unable to imagine a child's perception becoming so dulled that he cannot tell a straight line from a crooked one; but it is quite possible that imperfectly-drawn curves may, by their familiarity, have a serious effect upon his perception of curved forms, and upon his power of examining critically the curves which he draws.

In revealing Proportion.

Again, the study of *proportion* in a figure—that of its length to its breadth, or of a part to the whole—is more easy with straight-lined forms than with others, and this study of proportion is really the crux of teaching drawing. It is not the lines so much as the *spaces* which they enclose that make up the pictorial representation of an object, and for the correct rendering of those spaces the perception of proportion is the essential thing. One advantage of beginning with straight lines rather than with curves is that it renders the perception of spaces more simple.

In measuring Curvature.

One point which should also be mentioned here is this, that when curves come to be studied the straight line will be found to be the only safe *measure of curvature*. The flatness or the convexity of a curve, its changes of curvature, and its angle of junction with another curve or with a straight line—all these are best perceived by reference to the straight line which is tangential to the curve at the various important parts of it; and the straight line as either chord or tangent must often be used in setting off a curve, if the drawing of it is not to be slipshod and haphazard.

We need not insist here upon the vigour of drawing

animal forms or the human figure which is attained when the draughtsman uses short straight lines rather than flowing curves in his outlines. This is going a good way in advance of our present discussion, but it should be kept in mind when we try to decide as to the value of straight lines in drawing, and also the need for accustoming our pupils to "think in straight lines" rather than in curves, so to speak, when they study any form.

Free-arm Drawing.

The next point to consider is the medium to be used in the early lessons, and, connected with this in a practical way, the scale of the work. To take the latter point first, our discussion of the brain and nerve capacities of young pupils has prepared the way for our position here. The earliest drawing must be on a *relatively large* scale, and should involve the use of the arm muscles rather than those of the fingers—that is to say, all early drawing must be free-arm drawing.

For free-arm drawing, the only practicable medium is chalk or crayon, to be used on a blackboard, either fixed or portable, or on brown paper pinned to a drawing-board. The chalk should be of a fairly free consistency. Cheap crayons are often too hard and greasy. Common blackboard chalk, on the other hand, is too friable and dusty for satisfactory results on paper. The "happy medium" will not be hard to find.

The Drawing-Board.

The best drawing-boards for free-arm drawing have sometimes proved difficult to obtain by teachers. The continuous wall-board of American schools has not yet become popular among us. We have, indeed, no room for it. It requires a classroom where the pupils are so few that the gallery arrangement is unnecessary, where the floor is level throughout, and the passages at the sides and back of the room are wide enough to provide good working space for all. These things, unfortunately, are beyond our reach with our big classes and our eight or ten square feet of

floor space; but they should not be beyond our aspirations. The wall-blackboard, with its regular individual use by pupils for all kinds of lessons, is undoubtedly a factor which tells for independence and initiative in the schools where it is found.

The easel blackboards which are sometimes used are a poor substitute for the fixed board, and are wanting in



Free-arm Drawing : Preliminary Exercises in Curves.*

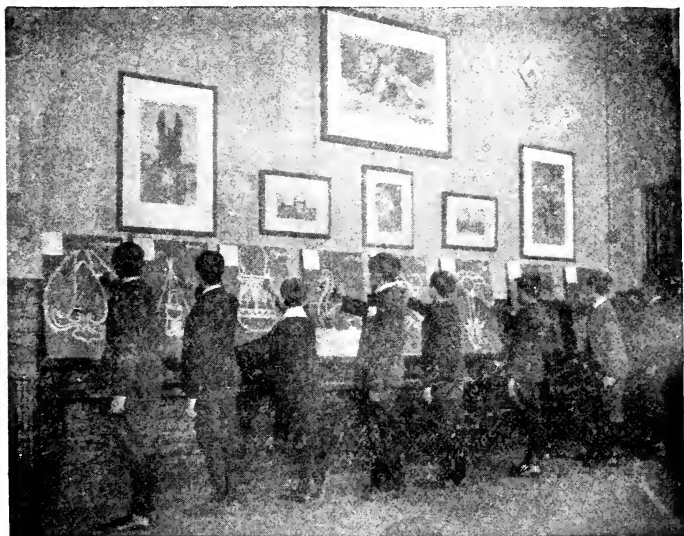
steadiness, even under the best conditions. Our best available resource in the meantime is the individual board for each pupil. There are many cheap and serviceable devices in use for fixing this board at a suitable angle on the pupil's desk. The boards should admit of being used either as ordinary blackboards, or as drawing-boards on which to

* This and the succeeding illustrations are taken from the *Teacher's Handbook to Nelson's New Drawing Course*.

pin sheets of brown paper. These have the advantage of being capable of removal and preservation, and this gives the pupil the feeling of greater responsibility, and adds value to the drawing which he makes.

Position of Board and of Crayon.

The angle of the drawing-board must be carefully considered. The teacher should experiment upon herself in



A Class of Senior Boys at Free-arm Drawing.

the matter. She will find that inclination best which places the board nearly at right angles to her line of vision when she is sitting upright. Freedom of arm movement is impossible if the board is too near the horizontal, and the vertical position is suitable only for drawings made a very little below the level of the eye.

The holding of the chalk or crayon should also be attended to, as there is a better and a worse way even in such little details. The over-careful child will tend to grasp it some-

what in the fashion of a pencil. This is not good for free movement. The chalk should be held *in* the hand, somewhat as the young pupil holds his spoon in his early experiments with that implement. It should be held lightly near *the point*, between thumb and forefinger, the other end touching the palm near the base of the little finger, and nowhere else. This light, easy grasp will aid much in freedom of movement and evenness of line.

Scale of Work.

Everything drawn free-arm should be on a large enough scale to prevent its degenerating either into uncertainty of form or into free-hand instead of free-arm drawing. Probably about two inches might be regarded as the *minimum visibile* at this stage. No pattern or detail of less size should be introduced. The longer lines of the study might range from six to ten inches or more. The chief danger will be on the side of over-minuteness rather than of excessive size. There must be no stooping forward to put in minute touches; the pupil should have his work pretty nearly at arm's-length all the time. It is intended to be seen from that or a greater distance, and freedom, boldness, and proportion of masses are the qualities which we wish to develop.

Value of the Exercise.

The chalk and blackboard will help to encourage several characteristics of value, for which the old pencil drawing gave little or no scope. The development of a *surface* is easy. Not a mere outline, but a tinted space is an easy outcome of free-arm work. This is less easy in pencil work, though possible. By using the side of a suitable piece of chalk, a space can be rapidly and evenly shaded. The use of *colour* is another advantage of the chalk work. A box of crayons of assorted tints in each child's possession gives scope for no end of interesting effects, which will awaken a genuine perception of colour relationship in many. The charm of such drawing is greatest to a child in his

play-exercises or spontaneous drawing, and for this abundance of time must be found. It will *pay* in the long run, if only from the growing command of the material which it develops.

Brush Drawing.

Next in order of time, as also in order of adaptation to the child, we may place the use of the brush and water-colour. So much has been written lately on brush drawing that we need hardly enter into details of method here. A medium-sized brush, a saucer of prepared colour, and a sheet of paper, preferably ruled faintly in inch squares, are the material necessary. The brush is less easy to manipulate than the chalk, and the elasticity of its point is apt to produce some unexpected results at first. Hence the desirability of having the guidance of ruled lines for all but the free play-exercises; and if these take the form of making designs, the ruling is still desirable. The stage at which drawing can be done with the brush direct from nature lies a good way in advance as yet, though experiments may be allowed and sometimes encouraged.

The most useful type of early exercise is that known as "blobbing," an exercise over which those who know nothing of children easily wax sarcastic. It is not drawing or painting; it is merely a useful method of making acquaintance with the brush and its ways. The developments which have been evolved by skilled teachers from this preliminary brush work show what it is designed to lead to—*bona fide* brush drawing, and the colouring of surfaces in wash. It is doubtless a mistake to regard this form of brush work as an end in itself, and to produce by intricate combinations of "blobs" patterns which have no merit beyond their intricacy, especially at a time when the children should have learned to use the brush to better purpose. But in its own time and place it may serve a very good purpose indeed.

While dealing with this matter, it may be of use to mention that some teachers begin the use of the brush

with *water alone*, which, when used on a dry slate, serves all the purposes of colour. This allows the children the maximum of free exercise at the minimum of cost, and is found to be an interesting and useful occupation. The drawings are, of course, evanescent, but this is a matter of small consequence at first.

Free-hand Drawing.

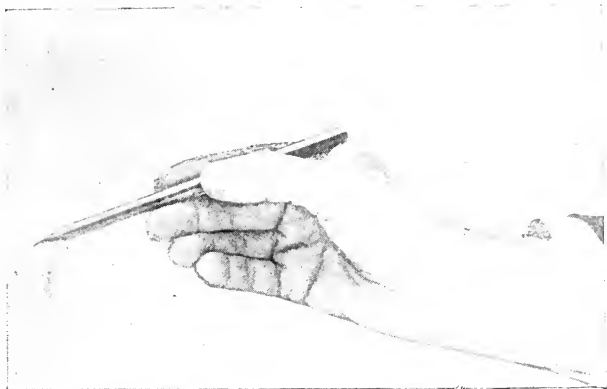
Finally, we come to the pencil. In our discussion we have now left free-arm drawing behind. In school practice, however, free-hand and free-arm will alternate, as may be found best. There are types of exercise which lend themselves specially to the one treatment or to the other, and each should be developed to its best possibilities. Free-arm drawing is not a passing stage of the subject. The teacher, at least, will find it the form which is of most value in her daily work.

As our free-hand drawing is on a much smaller scale than the other, and as the point of the pencil is smaller than the chalk and less elastic than the brush, its manipulation will require careful teaching and practice.

Position of Hand and Pencil.

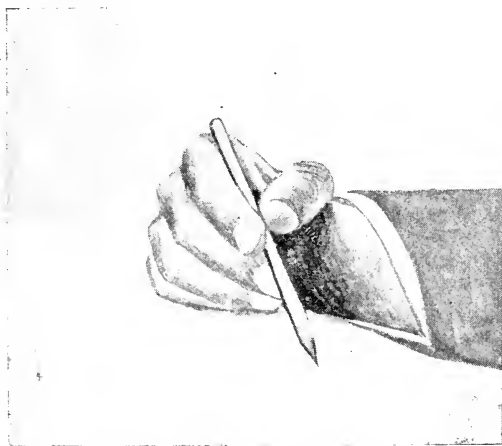
There are a great many wrong ways of drawing a line. It should be noted first that the grip of the pencil and the movement of the hand in drawing are very different from the methods used in writing.

The pencil should be held with the point projecting *considerably* beyond the tips of the fingers. These should be nearly straight, and the pencil should lie along the first finger, being held in its position there by the thumb (also nearly straight) and the side of the middle finger. The pencil is not moved by the finger muscles, as in writing. In most cases the hand moves as a whole, sweeping round from the wrist, which is supported upon the desk. In certain other cases the fingers are used, bending from the knuckles, but not in the way necessary with the pen.



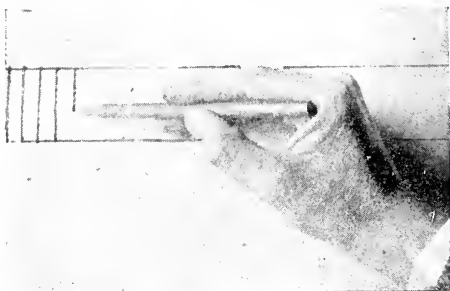
Correct Method of Holding the Pencil : the Beginning of a Stroke.

In writing, the hand must always be in the same position relative to the row of letters which is being written ; in drawing, the position of the hand varies with the direction



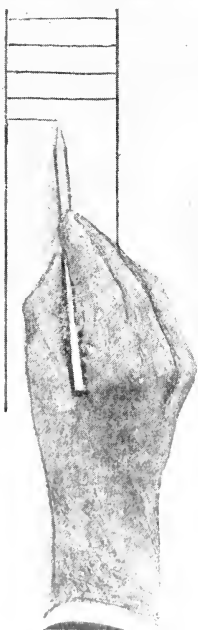
Position of the Hand at the End of a Stroke.

of the line which is being drawn. The position of the pencil must always be at right angles to the line which it



Correct Position of the Hand for Drawing Vertical Lines.

is tracing. In drawing a horizontal line the pencil must point away from the pupil's shoulder somewhat in the normal position for writing, but inclined at a less angle to the surface of the paper.



Correct Position of Hand (viewed from above) for Drawing Horizontal Lines.

Since the hand moves from the wrist as a pivot, a long line cannot be drawn in one sweep. When two inches or less have been drawn, the hand must be shifted along into a new position, and another section of the line drawn, and so on. There must be no gliding of the hand along the paper, as if the elbow were the pivot instead of the wrist; this approaches the method of free-arm drawing instead of free-hand.

If a vertical line is to be drawn, the special movement of the fingers comes into play. The wrist must be bent, and the hand laid over on the little-finger side, so that the pencil is again at right angles to the direction of the line to be drawn. Whatever be the direction of the line to be drawn, the hand and pencil should first be placed in position, and the pencil then moved along the direction of the line without touching the paper, in order to make sure that the hand is in a position to command the course of the line; if it is not, the position should be changed as may be required, and the line should then be firmly drawn with one movement, or with one for each section if the line is a long one.

In drawing curves, the same procedure is necessary, the pencil in this case being kept as nearly as possible in the position of the *radius of the curve* at every point of its course. If the curve is convex towards the right, this is impossible. In drawing the right-hand side of the letter O, for example, the pencil must be *outside* the curve, so to speak, but its position must still be as nearly as possible at right angles to the part being drawn. When we draw a curve thus from the convex side, we must draw it in shorter sections and with more frequent changes of position of the hand than are necessary in drawing either a straight line or a concave curve.

Need for such Details.

These points seem rather mechanical, and the treatment here may strike the reader as descending to details rather than considering principles. The excuse for this must be the neglect of such matters which has been too common in beginning the study of drawing. Many teachers who are most careful to see that the pen is rightly held by beginners in writing, do not seem to recognize that the same care is needed for the beginning of drawing, and all the more so because the pupil is likely to attempt to hold the pencil as he has been taught to hold it, or the pen, in writing.

Nothing is more common than to see young children drawing a vertical line, for example, holding their pencil with a short grip, with fingers bent and wrist straight, the pencil pointing in the same direction as the line, and the line being drawn by a gliding movement of the whole hand towards the body, if it is a long line, or by the crooking of the fingers if it is a short one.

The Danger of Abstraction.

The danger which is almost inseparable from all such detailed instructions as we have been suggesting, and the chief danger of the teacher who tries to put such instructions into use, is that of falling into abstractness and formality. In the drawing of any object (and objects alone, real or conventional, should be drawn at this stage) the function of the *line* is merely to mark off a *space*. Hence we must not lay undue stress upon the accuracy of the lines. They must always be as good as possible; but this is a very elastic standard, and must be interpreted relatively to the pupil's powers and progress. A line that is good enough now would not be so if presented by the same pupil a few months later. It must be just as good as the pupil can make it with the care and attention which the work merits, keeping in mind that the main effort of attention should be directed towards the *complete object* or drawing, and should not be entirely monopolized by each separate part in turn. We must not require such absorbing attention to be given to the line that the pupil will forget the *purpose* for which the line is being drawn.

Use of real Objects.

In very early exercises the feeling of concreteness is aided by the presence of the actual object which is being drawn, but at the same time the drawing itself should be made, line by line, after the teacher's copy of its form on the blackboard. In this way the conventional language is learned whereby real form is expressed. The feeling of the

importance of spaces as compared with lines will be strengthened by covering the spaces with colour or tint when they have been marked out or outlined. The tint may be a mere shading in parallel lines—a most useful exercise for many purposes, and one that cannot be done well without much practice and some instruction: to give the effect of flatness with such a tint requires that the shading lines be as far as possible parallel and at equal distances from one another. The tint may sometimes be produced with coloured chalk, and a little later the children will enjoy the use of water-colour for the same purpose. In any case the object is the same—to call attention to the *spaces*, and to throw the lines into their properly subordinate position.

Selection and Representation of Objects.

Common objects should be drawn only in profile at first. A table will be represented by the near edge of its top and its two front legs. No attempt should be made at this stage to give the full perspective of the object. When curved objects are introduced, the same principle must be observed. If a jug or a teapot is the subject, the top and the bottom should be represented by two horizontal straight lines. The object may not look thus to all the pupils, but the position is so common and natural that they can all appreciate the slight amount of convention which is implied in this view. There will be more than enough of difficulty in the lines which represent the side curves of the object, but here we have the great advantage that these curves appear exactly the same to every member of the class; the case is quite different with the top and the bottom lines, which form elliptical curves different for each different position of the children. To render these curves even approximately correct as seen from any particular row of seats is an exercise which will be none too easy several years after this period. At present it will be safer to use curves only in the drawing of things which are spherical or circular, or nearly so. Fruits of various kinds, balls, hoops,

the face of the clock, and similar things, will make good objects for this form of practice.

Dangers of the Object.

When such an object as a leaf or a simple flower is being drawn by the class, the leaf itself should be present, in order to give the exercise concreteness and to keep touch with reality. It might seem to follow from this that each pupil should have a specimen for himself. This would be a mistake, however, at present. If a good large specimen be pinned on the blackboard, with a sheet of white paper as a background, this will be quite sufficient to show the actual form, and to give the feeling of concreteness of which we spoke. When each child has a leaf before him he sees *too much*. The infinite detail of the real object prevents his concentrating his attention on the proportion and the outline, which are all that he is to represent on paper. Texture, venation, curvature, relief, the play of light and shade, and all that gives individuality to the *individual* leaf—this has to be for the time neglected. What is to be drawn is a generalized leaf of the species under consideration; and this still further conventionalized, perhaps, by being drawn in mere outline. The truth of the drawing will be all the better seen when the host of facts which are to be omitted are not obtruded upon the notice of the children.

Teaching to see.

This exercise of drawing from the object—or, rather, of drawing *in the presence* of the object—the form being interpreted and translated into the language of line, colour, or light and shade, is really more than an exercise in drawing. It is first of all an exercise in *seeing*. We often come across the advice, “Draw the thing as you see it.” This advice is good only if we have been taught to see a thing *as we should draw it*. Here, as everywhere in education, attention to one aspect means shutting the eyes

to other aspects which are not important for our present purpose.

The teacher's help is needed at first to show the children what aspects of an object are really important for the work of drawing; otherwise there will be much waste of time and energy, and in many cases entire failure by the pupils to discover those aspects for themselves. Some of our boys would, no doubt, find out for themselves the conventions and the omissions which are necessary in drawing, as the story of self-taught artists proves. The great majority would never do so, and we must work for the majority. The geniuses will take care of themselves.

There is plenty of room for the originality of self-teaching or discovery under the most careful teaching, provided that teaching is skilful. Here, as elsewhere, however, there must be no supplying of knowledge until it is felt to be needed. The teaching of drawing is not different in its principles from other teaching; the skill of the teacher consists in leading the pupils to feel the need of knowledge, and in leading them to discover as much as possible for themselves. What we must avoid is allowing the pupils to go on drawing without feeling any need for further knowledge, or allowing their awakened interest to flag through the difficulty of finding what they need.

Bi-Manual Drawing—

No discussion of drawing in its early stages would now be complete without some reference to the Bi-Manual or Ambidextrous work which has of recent times figured in so many descriptions and pictures of drawing exercises in schools. Free-arm drawing has apparently been confused with bi-manual drawing in many quarters. This is, of course, an error. Free-arm drawing is simply a variation on free-hand drawing. It is drawing performed with the fore-arm unsupported on the desk, so that not only the hand but the whole arm is free to move. In free-arm drawing the shoulder is the fixed point round which the arm and hand

swing; in free-hand drawing the wrist is the fixed point: that is the essential difference. The question of drawing with one hand or with both hands is quite an independent matter; conceivably, at least, it might as well be done free-hand as free-arm, though that form of it has not yet been mentioned.

Many teachers who have quite rightly introduced free-arm exercises seem to consider that they are therefore obliged to practise drawing with both hands at the same time. This point requires some consideration.

Impossible as real Drawing.

Drawing exercises, it seems clear, should be exercises done by the hand *under the guidance of the eye*. In drawing two bi-laterally symmetrical curves at the same time, it seems equally clear that we should be able to follow *both* the lines with our eyes at the same time. Most of us, probably, would find that an impossible task; and if we could accomplish it, the practice would not be conducive to normal vision. If we do *not* follow the two lines so as to direct the two hands, the exercise seems to have little value as a drawing-exercise, whatever other value it may possess. If the aim is to train the muscles to move symmetrically, without the guidance of the eyes, one might suppose that the object would be better attained by swinging a pair of light dumb-bells or Indian clubs than by swinging a couple of crayons. It looks very clever, perhaps, to be able to draw two curves at once; but beyond this the exercise does not appear to have any value.

Training the Left Hand.

We do not wish to undervalue the training of the left hand. That end, however, would be much better attained by the practice of exercises which are useful in themselves, and not of those which all normally constituted people do with the right hand. The exercises would also be more efficient for training if they were not mixed up with right-

hand exercises at the same time. The actual work which the left hand will have to do is much better prepared for by the other occupations of school, such as clay modelling. It is difficult to mention any form of useful work in which we swing our two hands symmetrically, as bimanual drawing requires, unless indeed it be in some forms of swimming.

When we speak of the value of training the left hand, we refer to the work which is normally done by that hand. It is a mistake to assume that right-handedness is due merely to our habit of training the right hand more than the left. There seems good reason to suppose that the superior efficiency of the former corresponds to some physiological difference, such as its effective supply of nerve energy. It is suggestive in this connection to recall this fact: it has been found that the correcting of left-handedness in the case of children who were naturally left-handed was accompanied by a deterioration in their power of articulate speech, and the appearance of a tendency to stammer. The explanation, or the probable explanation, of this result involves a discussion of the brain centres, motor and other, involved in speech, which we cannot enter upon here. The point important for us to note is that such phenomena as right-handedness and left-handedness are not arbitrary or accidental, but have causal connections with other facts in the bodily constitution. They are facts to make the best of rather than to alter by training. Right-handedness is normal in the great majority of our pupils, and left-handedness in a small minority, and we should not attempt too strenuously to upset their natural bent, but rather to see that both hands are trained to be useful servants of the intellect and the will.

CHAPTER XIII.

CLAY MODELLING.

IF we place Clay Modelling second to drawing in the ranks of manual occupations, that is chiefly on account of the greater difficulties which the teacher may experience in its use. From every other aspect in which the two can be compared, the educational advantage lies with modelling. The only objection to the use of clay is that the teacher is apt at first to find it a worry on account of its being "messy:" this is not likely to be any objection to it from the pupil's point of view. The greater the teacher's knowledge of processes and methods of manipulation, the less "messy" will her clay modelling become; while the care that is needed by the pupils to secure cleanliness is itself an education of some value.

Its Educative Value.

As regards *concreteness* of representation, modelling is superior to drawing, and therefore more interesting. In drawing, we find that the coloured surface is more attractive to the child than the abstract line; but the plane surface is itself an abstraction from the actual solid form which real things possess in this tri-dimensional world of ours. A solid model in clay is a more interesting representation of a fruit or other object than its outline or even its coloured image on paper.

Again, there is more of the *pupil's activity* required for modelling a given form than for drawing it. The number of muscles employed is greater, and includes those of both

hands; while the movements are more natural, and less restrained and artificial. Hence, although the amount of muscular co-ordination needed is greater, the result obtained is often much better than in drawing.

The *sense training* is more thorough. Not the sense of sight alone, but also the sense of touch is called into exercise to explore the form under study. We have already insisted on the value of this sense as a means of gaining knowledge, and as being the child's favourite means of doing so. In modelling, eye and hand are closely linked in the way which is natural for the child.

By-and-by we shall expect the pupil to represent form in the flat by means of light and shade. We should therefore see that he is now trained to know *by the sense of touch* those facts which light and shade represent on a surface. These are facts which appeal primarily to the touch. Painters often recommend modelling as the best training for seeing and for learning to represent form in the flat. If the artist can best draw a figure after having modelled it, the teacher may find in this a hint for the improvement of the power of drawing from the model. Modelling before drawing, and as a basis for drawing, seems thus equally in accordance with natural law and with technical experience.

Capacity for Development.

There is one very important feature of clay modelling which must not be overlooked in deciding upon its inclusion in or its exclusion from our curriculum. We have already said that any form of manual occupation which we select should be capable of *development* beyond the Infant School; training in the use of any medium of expression which is wanting in this capacity is time wasted, to a large extent. Now, from this point of view, we must place plastic clay on a higher plane than any drawing medium. If we give exercises in real modelling, however simple and elementary, we shall develop the beginnings of a power

which lends itself to the very highest and noblest artistic expression. True, none of our pupils may become sculptors, yet we may give all of them such a training as will enable them to *understand* and *appreciate* good sculpture—a power which is somewhat rare even among educated persons at the present day, just because so few people really know the elements of form. Our training will also enable our pupils to appreciate all beauty of form in their daily surroundings, and thus lead to a higher conception of beauty in common things. The kind of seeing which is cultivated through the use of the fingers in modelling is fundamental. It lies at the root both of the execution and of the appreciation of all decorative work, except what is expressed in mere colour, and of much decoration with which colour is connected. Anything which will quicken in our pupils an appreciation and an intelligent criticism of such arts will inevitably raise the standard of taste, and add to the enjoyment of life.

The “Mud-Pie” Instinct.

The material used in modelling is attractive to children, if not to teachers—more attractive, on the whole, than those used in drawing. The “mud-pie” instinct is a common characteristic of our pupils in the Infant School, and it ought to be recognized. The handling of a bit of modelling clay or putty is full of pleasant surprises. In drawing, the result is nearly always inferior to the conception in the child’s mind. In working with plastic clay the child is often amused and delighted with the unexpected results of a pinch here and there. This may not tell for accuracy in a formal modelling exercise, but it makes the clay an excellent thing to play with.

Such play there ought to be in abundance. Modelling should begin with a play stage, just as drawing does. It is even more important in the case of clay, as the child needs time and opportunity for experimenting with it and learning its properties for himself. After we have begun more

formal work, there should still be time set apart for the free use of the clay by the children, when they should be encouraged to make anything they like with it. This is not wasted time, even in the narrowest view of education. Every attempt made by the child is not only a good experimental lesson in the properties of the material and its possibilities for work; it is also a revelation to the teacher of the pupil's advancement in his real perception of form in things which interest him, and of the features of those things which appeal most strongly to him. Of all the lessons which the class can teach the teacher, there is none more reliable and direct than that which is given through the medium of the free modelling practice or play.

The Equipment necessary.

The outfit needed for modelling is not expensive or complicated. A modelling-board, about ten inches by twelve, is all the individual apparatus necessary for each child, and the place of this may be taken by a school slate. This is perhaps the only exercise in school for which slates should be tolerated, and even here they are only the second-best material; wood is better. No modelling tools other than the fingers are needed in the infant room. A covering of American cloth for the desk is to be recommended, and for obvious reasons a simple form of over-all pinafore for each child should, and can easily, be made by the girls in the sewing classes of the upper school. A supply of the best quality of clay is inexpensive, and will last indefinitely. If properly kept, there is no hygienic objection to its frequent use. Some teachers prefer to use plasticine with the youngest children, but nothing can equal clay which is rightly kept.

As to the personal cleanliness of the children during the modelling lesson, there is no need for any of the clay finding its way anywhere on the pupil's person except on the forefinger and thumb, and, in certain exercises, on the palms of the hands. If proper use is made of the indispensable

damp sponge, the amount of "mess" may easily be kept at a minimum. All this presupposes that the number of pupils in a class is not too large.

It would be useless to give here full instructions for the keeping and the manipulating of the clay. No teacher ought to attempt clay modelling unless she has gone through a course of training in it herself; and if she has done so, those points are sure to have been practically impressed upon her attention. The amount of moisture in the clay is practically the only secret in its manipulation, and the presence of too much or too little is sure to ruin the best modelling work, and to make the lesson a disgust to teacher and pupils alike. What exactly is the proper consistency, and how to treat clay which is too soft or too hard, can easily be learned by practice, but in no other way. As to the material, there is nothing else to learn.

The Course of Lessons.

Only general hints can be offered as to the course of modelling which seems best for infants. The actual objects modelled will depend partly on the circumstances of the school and the taste of the teacher. Partly they will depend upon the course of oral lessons; for the modelling, like the drawing lesson, offers a splendid opportunity for correlation, and it will also be one of the forms of the "application" step of our oral teaching.

What kind of objects should we give the children to model? It is perhaps easier to say what kinds we should *not* give, and in this matter we must found our judgment both on the nature of the clay and on the nature of the child. Whatever exercise we find to be in accordance with those two, we shall be safe in admitting to our list, if it falls naturally into our lesson scheme.

What to Avoid—(1) Small Objects.

In the first place, we shall avoid all the *small* objects which are so often seen dried and preserved in the Infant

School museum—tiny birds' nests, eggs like peas, little birds and little fruits modelled in the round. According to our second criterion, these are all ruled out; they are one kind of that minute work which we have already seen to be unsuited to the present development of the child. All work must be on a scale large enough to suit the unskilfulness of the little fingers, and also large enough to cultivate a broad, firm style of work, without the petty, niggling detail which kills all reality in drawing or in modelling. It must be large enough to give room for showing the characteristic forms of the object; otherwise we lose the best part of the exercise.

(2) *Modelling in the Round.*

Being modelled *in the round*, those objects also transgress our first canon—they are not in accordance with the nature of the material. We find that children get much better results at an early stage by modelling in *high relief* than by working in the round. The object which is modelled in relief is supported by the clay slab on which it is built up, with the modelling-board as a background for the whole. The clay does not therefore need so much handling; and when clay is too much handled by warm little hands its consistency soon deteriorates, and it becomes less and less plastic. At the same time, constant handling obliterates touches which have already been given, and which are meant to be part of the final form. In relief modelling, the clay stays where it is placed, and needs no handling after it has been modelled. Modelling in the round, and on a small scale, is the surest means of missing just that perception of form and expression of form which it is the purpose of modelling to give, and on which its educational value principally rests.

While we rule out modelling in the round, we do not forget that this is really the modelling of the artist, and the kind at which our pupils may aim by-and-by. But for such modelling, a rigid core or skeleton is always required

to support the soft clay, just as our slab supports it when we work in relief. When our pupils reach the stage of modelling an apple in the round, they will need a peg fixed in the modelling-board to form a rigid core for the fruit. Only thus can it be modelled and handled while retaining its best qualities. But such apparatus is not needed for our simple exercises in the Infant School. It seems so easy to make a round lump of clay look like a fruit that we are apt to forget the real difficulty of the exercise. To attempt difficult work by slipshod methods is the reverse of educative.

(3) *Cutting-out Exercises.*

There is a whole series of exercises sometimes given which consist of first making a flat slab of clay, then drawing a certain form on it in outline, and cutting away the remainder. This is a useful exercise, perhaps, but it is not modelling; it is carving. Now carving is a useful form of art in wood or in marble, but carving does not require a plastic medium; its special nature demands a firm and unyielding material. Such exercises, therefore, are not in accordance with the nature of our medium, the plastic clay. It is the plasticity of the medium which we are to make use of, and we ought not to play tricks with it as if it were something else. The reason for using a plastic medium for modelling is its power of expressing form by *building up* and *modelling* with the thumb or finger—which are the most sensitive of all modelling tools, and those most used by the expert. We may teach carving in school if we think it a good means of education, but we should certainly leave carving alone till *form* has been learned by building up and pressing into shape. In any case, carving is an exercise which demands a maturity of mind and of hand far beyond the period of the Infant School.

(4) *Geometrical Forms.*

Another type of exercise which we shall leave severely alone is the modelling of the common geometrical solids—

the cube, the cylinder, and such like. The beauty of modelled form is the "live" surface, with all the subtle play of light and shade which organic form always presents in the animal and the vegetable world alike. The beauty of geometrical form, on the other hand, is the entire absence of all this—its perfectly plane surfaces, its absolutely straight lines, accurate angles, and perfect curves. The use of clay for the making of such models not only implies the loss of all those mathematical qualities in the figures, but it blunts our pupils' perceptions of what mathematical regularity really is. Paper and cardboard readily lend themselves to the construction of geometrical forms; clay does not. The amount of insight into geometrical forms which can be gained by making them in clay is not worth the time it takes, which ought to be spent in exercises better adapted to that special medium.

The Type of Work.

The best types of exercise, on the whole, as being most in harmony both with the material and with the worker, seem to be those which deal with simple natural organic forms, and afterwards with these used conventionally in simple design. And in every exercise the scale of working should be large enough to permit free and fairly rapid and direct manipulation by means of nature's tools—the thumb and the first finger of both hands. In the manipulation of clay the left hand has a function as important as that of the right. The modelling-board should in most cases be placed upright in front of the pupil, and its position must in no case be changed so as to avoid the necessity for using the left hand. The point of view and the incidence of the light must remain the same throughout the whole exercise, for it is by the play of light and shade that form expresses itself to the eye. Here, then, is our great opportunity for cultivating ambidexterity of a really useful kind, but not the simultaneous and similar movements of both hands, which is a totally different matter.

Early Exercises.

Our earliest exercises will be based on the ball, not as a regular geometrical solid, but as a common form easy to make approximately right, and as a useful means of learning to judge size *in the mass* as distinct from size on the flat. The ball immediately becomes the basis of allied forms, such as the oval and the elliptical solid. Simple arrangements of these, suitably grouped on a flat slab on the modelling-board, will form our first lessons in design in relief. With a group of ovoid forms, for example, we can form a conventional rose by modelling the ovoids into petals in high relief. A single form of this type can be modelled into the particular kind of leaf which may have come before our notice in the oral lesson, and which we have already drawn in our drawing or painting lesson. A shell or a fish may be built up in the same way, if one or other happens to be in the line of the day's lessons.

A Suggested Scheme.

The full elaboration of our modelling scheme, as has been pointed out, will depend upon the scheme of our other work, and must always go hand-in-hand with it. As to the methods of treating the various forms which will be found useful for the modelling lessons, much guidance and useful hints will be found in special manuals dealing with the subject; but probably no published course will entirely satisfy any thoughtful teacher, in view of the necessity for correlation with the other work which she has arranged. For correctness of technical methods and elasticity of detail, one of the best schemes which has yet appeared was published by Miss Unwin of Bradford in the *Practical Teacher's Art Monthly*, vol. v., and is likely to be helpful to all infant teachers. But any such course must be carefully criticized before being actually adopted, keeping in mind the two points mentioned—(1) its suitability to the child, and (2) its making legitimate use of the special qualities of the plastic clay.

Specimens to be preserved.

A supply of good specimen exercises done by capable pupils at each stage may be preserved and kept for guidance and for stimulus. Some teachers have had such specimens fired and glazed at a pottery, to make them permanent objects for the school wall or the cabinet. A square slab or tile with a good relief model of a leaf, a fish, a shell, or a conventional design, modelled by a pupil of outstanding ability, has a value beyond its mere decorative effect when thus treated and made a permanent possession of the class. Such an object in the home has also a value of its own. It is an object lesson in that home, and will give an added appreciation to all objects of plastic art which may find a place there, thus serving in a humble way as a means of at least one form of true culture. It has the touch of human interest which is indispensable to every form of art, however humble.

CHAPTER XIV.

SINGING.

EVERY Infant School and Kindergarten programme must include Singing. Are we to place it among the educative or the recreative exercises ?

Probably among both : every form of recreation has an educative value, if we take the word education in a sufficiently wide sense. Play in its least worklike forms is educative in the degree that it calls into exercise the physical, mental, and moral activities of the child. And it is equally true that all educative work, at this stage of school life especially, should also be recreative ; work which involves pressure or strain, or which is prolonged beyond the point when it ceases to be pleasant, is work which has its educative value seriously impaired for a young child.

Singing as a Play-Exercise.

Singing in its simplest stage may be regarded as one of the natural forms of *play*. Children sing as naturally as they dance, or jump, or run, and for very much the same reasons. Singing is a mode of giving physical expression to overflowing natural energy. Shouting, we may prefer to call it ; but even among adults who are not wholly uneducated there may be some difference of opinion as to whether certain vocal sounds should be described as shouting or as singing. One nation differs from another in its ideal of singing ; and if our young pupil has to pass through the various lower stages of civilization before he reaches

our adult stage, his musical taste as well as his other characteristics may be expected to exhibit corresponding degrees of imperfection. While we listen to his spontaneous vocal performances, we may sometimes be uncertain which particular stage of barbarism he has reached; but we can have little doubt that our own standard of musical taste is still some way in front of him. And it is our work to lead him there.

The Æsthetic Element.

The leading must be very gradual, and often very slow. In music, instruction counts for less than in any other subject of the school curriculum. Music is not, in the first instance, something to be understood; it is to be enjoyed and appreciated. The æsthetic element enters into other branches of school work: into colour work, for instance, where not only knowledge of facts but growth of taste is required to produce results which we approve as good; and into our lessons about pictures, which should not only inform but should, at the same time, be a source of delight. It is in music, however, that the æsthetic element is at its maximum and the intellectual at its relative minimum.

The results of our singing lessons depend partly, of course, on our pupils knowing what to do and how to do it; but for their highest excellence they depend most of all upon the growth of taste as a guide in doing the things. To give our pupils practice in singing, or even the power to read musical notation, without at the same time developing the power to sing with taste, is not education in the sense in which music is educative. It is to give the husk without the kernel—to teach them to produce sounds which can give but little pleasure to themselves, and which may give acute pain to their listeners.

Children with "no Ear."

We shall find great diversities among the musical gifts of our young pupils. Some can already sing sweetly a few simple airs which they have learned at home; others

cannot distinguish between two notes half an octave apart. We must not conclude that those of the latter class have "no ear." If they have learned to *speak*, this proves that their ear has the power to distinguish and their voice to produce sounds with a great many intricate differences. But their attention has not yet been directed to the *pitch* of sounds, a quality which is of little importance in speech; they have lost time here relatively to the others, but they may make it up yet.

They will learn to sing in the same way in which they learned to speak—by *listening* and *imitating*. Those children have never really listened to pitch. Probably their home is an unmusical one. The material needed to awaken their appreciation of pitch and the other qualities which go to make up music has never been available for them to study and imitate. It may be that there is also a want of interest in the pitch of sounds, for the interests of all are not absolutely identical. Whatever be the causes of their deficiency, and whether these be fully known to us or not, our method must be to provide the belated perceptions with abundance of the material needed for their awakening and development.

Their Treatment.

There is absolutely no use in our trying to train such a child's ear to appreciate pitch by setting him to sing along with the others. This stage must be delayed at least until he is able to tell when he is producing the same note as the others, and when he is not. One sometimes finds a child allowed to sing with the class although he always sings out of tune. This simply accustoms the defective ear to tolerate discord, and to be deaf to the very facts which we wish it to perceive. It is likewise wrong to banish such a child from the room and set him to do other work elsewhere. He must *hear* music, and be encouraged to *listen* to it with attention and discrimination. It is only through his *familiarity* with musical sounds that he has any reasonable prospect of learning to appreciate what are the dis-

tinguishing marks of such sounds, and finally of being able to imitate them. When treated in this way, the proportion of children who remain insensible to pitch is estimated by a practical teacher of wide experience as being less than one per thousand; when the children came to school there may have been ten or more per hundred who had "no ear."

The Use of Imitation.

Music, like speech, is largely conventional. It is wider in its conventions, being more directly a physical expression of emotion; yet there is a large amount of convention in it, which can only be learned by imitation. Hence much of what we said regarding the oral teaching of language applies, *mutatis mutandis*, to the teaching of singing. Pattern counts for a great deal. Example is not only better than precept, but it is necessary for the understanding of the precept. It has been tersely said that "a man can't learn much by hearing himself talk," and it is certainly true that our pupils do not have much chance of musical culture if they only hear themselves sing. The pupil's ideal ought always to be somewhat above his power of execution, and it is the teacher who must give this ideal in its concrete form by her own singing. If she cannot do so, her pupils may certainly learn a good deal *about* music and singing, but they will hardly learn to *sing* well. If they do, it will be by the grace of other chance models.

Singing and Speech.

Singing differs from speaking mainly in its use of two elements—*pitch* and *rhythm*. Speech possesses both these elements in varying degrees; our spoken words have pitch, but not sustained uniform pitch—inflection and modulation depend upon the rapid change of pitch in the word and the sentence. Speech has rhythm when its accents occur with regular sequence, as in poetry. In music the pitch must be definite and sustained, and the accents must recur in definite sequence.

Speech and singing resemble each other in that they are both sounds or noises. Noise is the natural stimulus for the organ of hearing, and as such it gives pleasure to the ear, just as light does to the eye, and a variety of yielding or resisting surfaces to the hand. Most noises are pleasing to young children, and though there is a limit, differing much in individuals, at which noise becomes painful from its loudness, this limit is usually much higher in children than it is in the case of adults—as we often realize to our cost. This is parallel with the young child's pleasure in bright colours and vivid contrasts.

The "Penny Trumpet."

Sustained pitch in sounds usually gives them an added interest to the infant. Hence the popularity of the "penny trumpet." Monotony does not weary at this age. One note is as good as the whole gamut. Repetition rather than variety is what young children delight in, through whatever sense the impressions are received. The instincts of the child here are, of course, in the line of its best training; for what the senses require at first is abundance of impressions or experiences from which mental images may be formed. If those impressions were too varied in kind, there could be no stability in the images formed, and all the world would be a confusion. In teaching himself, the child follows the same plan which we shall follow with him by-and-by—one thing at a time, and plenty of repetition before we pass to something new.

The Toy Drum.

Rhythm in sounds is another cause of pleasure in very early life. The cause of this pleasure lies very deep in the physical nature of nerve action, and we need not explore it further than to note that most early muscular movements tend towards rhythm, even in unconscious actions. Rhythmical sounds, apart from pitch, are in themselves a natural source of pleasure. Hence the popularity of this second

instrument, if it be not the first, in the nursery orchestra—the toy drum.

If we are to follow the lead of the child's nature here, as we ought to do everywhere, we must take account of the "drum and trumpet" stage of juvenile musical taste. This is our starting-point towards the music of the future, be it that of Wagner or of some other. Our pupil delights in *noise*, in *rhythm*, and in *repeated sounds*. We have therefore to provide him with exercises in which these are combined—but so combined that they may give glimpses of something higher to be approached through their means.

The Kind of Songs needed.

Every teacher must have noticed that the music which her pupils render with most evident enjoyment, and with the best effect, is just the music where those three elements are almost alone represented, such as a simple "tra-la-laa" chorus. This will often be sung perfectly, while the verse preceding it was rendered in a style which left much to be desired. The words are a serious difficulty in a song. When there are no words to distract the attention, but only simple repetition with easy variation and marked rhythm, the tone often becomes surprisingly good.

These points give a clue to the kind of songs to be given at first. The words must be of the simplest, both in sound and in sense—the less meaning the better, in fact; a simple nursery or nonsense rhyme will serve the purpose better than almost anything else. The melody must be rudimentary and even bald in type, the strong tones of the scale predominating, and any movement of pitch must be the subject of frequent repetition and melodic imitation. The rhythm must be simple and well marked, though this is usually learned more easily than the other features of the song.

It is hardly necessary to mention that the limits of pitch must be narrow. The average infant voice will hardly cover an octave, and we should confine ourselves from, say,

E \flat to C or D. If we attempt notes that are too high or too low, these notes will be badly sung, and the result of this is to hinder that perception of good tone which is the inner spirit of all good singing.

The "Accompaniment."

A word of warning may be necessary regarding the school piano. The earliest perception of pitch is acquired from *melody*, and melody alone is the proper medium of musical teaching for some considerable time. The piano is designed not for melody but essentially for harmony. Harmony is a much more advanced type of music than melody. Its appreciation implies considerably more musical culture than many adults ever acquire. There are many persons—uneducated persons, no doubt, if we make appreciation of harmony the test—who can appreciate melody, and can even sing pleasantly and in tune, but who feel merely confused by an "accompaniment." Most young children are at this stage. The piano, instead of aiding their perception of tone, retards and debases it. The melody becomes lost among the other sounds, and the child is not at a stage at which he can mentally picture out his own "part" among the varied sounds of the harmony. An exception might be made in the case of stepwise voice-training exercises, to be mentioned by-and-by, where the variation in the chordal accompaniment gives precision to the semitone steps; but the phrase or phrases which are used as a voice-training exercise must first be thoroughly familiar as a melody.

Possibly it may be due to the abuse of the "accompaniment" in early training that so many people are unable to sing unaccompanied in adult life, and require the aid of the piano to hide vocal defects rather than to enhance the musical effect of the song. And the same defect in our music teaching is also probably the reason for so many songs being written which, if the piano accompaniment be left out, have no music left in them.

Use of the Violin.

It is not uncommon to find a child who is put hopelessly out of tune by the piano, but who can sing in perfect tune when the voice is supported by the notes of a violin. If any instrumental aid or accompaniment is to be used in the Infant School, the violin is certainly the best for cultivating a clear perception of tone and of pitch. Next to the teacher's own pattern, it is probably the best aid possible, and some teachers whose natural vocal endowments are somewhat limited have yet secured excellent tone from their classes by the judicious use of the violin. The freedom of posture which it permits, as compared with the piano, is also a great advantage for the teacher in supervising the attitudes and in appreciating the efforts of her class.

Dangers of the Piano.

On the whole, we strongly recommend that the Infant School piano should be used for the drill lesson rather than for the singing lesson, and that it should in no case be played by the teacher in charge of the class for the time. The attention of the teacher, whether during singing or drill, should be fully occupied with the work in hand, and any musical or other non-essential adjunct should be undertaken by an assistant.

One frequently sees school music suffer from the teacher's attention being distracted by the playing of an accompaniment. Things are allowed to pass which would otherwise be seen and corrected at once, and the work rarely rises above a mechanical accuracy. In the matter of accent, to take only one example, the marking of the accent is so easily and so prominently within the sphere of the piano that the singers do not trouble to attend to it in their singing, while the teacher is so engrossed in making it distinct on the piano that she fails to perceive its absence from the vocal efforts of the class. Other points might be noted, such as phrasing, breathing, and the like, regard-

ing which the accompaniment is apt to make teacher and pupils alike deficient in critical attention and accuracy; but we need not illustrate the dangers at greater length.

The Production of the Voice.

Hitherto we have considered the singing lesson more from the side of perception or appreciation than from the side of actual *performance* or *execution*. In this latter aspect a few points now require to be noted. Every one knows that the voice is produced by the stream of air from the lungs setting in vibration the edges of those membranes in the larynx which we call the vocal cords. The *pitch* of the resultant sound depends on the *rate* at which those edges vibrate, which in its turn depends upon the *tension* given to the membranes by certain muscles. The loudness or *force* of the sound, on the other hand, depends upon the magnitude or *extent* of the vibrations, and this upon the *pressure* of the stream of air which agitates the cords; and that pressure is regulated by the muscles by which we breathe—those of the ribs and the diaphragm. The *quality* of the sound—that indefinable something which enables us to distinguish one voice from another, or the sound of a flute from that of a violin playing the same note—depends chiefly upon the *shape and size* of the resonant chamber formed by the mouth in its various parts. Within certain limits we can alter this at will, so that we can produce all the different vowel sounds at any pitch; and there are other alterations and adjustments which give different types of resonance to the voice.

An Effect of Muscular Movements.

The important point for the teacher is that all these elements are the effects of *muscular movements*, the muscles concerned being first those of the chest and diaphragm, next those of the throat and larynx, and then those of the mouth and the lips. This being so, the training of the muscles concerned is the foundation of good singing as much as

it is of good writing. In each case something comes by nature, but training alone will make the highest attainable excellence a possession of our pupils. And for the giving of this training the teacher has assumed the responsibility. This responsibility can be discharged only through knowledge of the processes by which nature can be moulded, and moulded, on the whole, beneficially to the pupil. For this purpose a special study of the voice in its mechanism and its culture is strongly to be recommended. Without this study, any "school management" rules will become mere rules of thumb and pious traditions.

The Importance of the Breath.

The essence of the voice is the *breath*, and the control of the breath is the Alpha and the Omega of voice production and voice training. If the teacher has from the first given such breathing exercises as were recommended under the heading of Physical Training, the extension of those exercises and their correlation with the singing lesson will come as a natural form of class drill.

The first part of the breathing exercise in the singing lesson is the proper inflating of the chest with air. In the next part, the breathing exercise of the singing lesson parts company with the earlier drill exercise. This is the art of rendering the expired air the medium of sound—of *vocalizing* the outward current from the chest. Here quality of tone is the aim. The vowel sounds, *ah*, *ai*, *ee*, *aw*, *oh*, *oo*, should be sung in soft, prolonged tones, the pupils being taught to economize the breath by keeping the chest muscles firm and tense, and not allowing the air to escape faster than is required for the production of the soft sound prescribed. This lesson will be found of great service later in preventing flattening in the singing of soft passages, which is usually due to a loose condition of the chest muscles. Incidentally the children will learn that the sounds made in singing are not necessarily loud.

The next point to attend to is the opening of the mouth.

The teeth must be well apart, but the lips somewhat closed upon them. The lips are to form the trumpet, so to speak, for the sound, and to direct the vibrating current of air forward in a compact stream of sound. In this the teacher's model is the best lesson. Descriptions are of little use to young pupils.

Perception of Pitch.

The exercises suggested do not directly involve the question of pitch. The notes sung should not always be of the same pitch, for various reasons; but it is quality, not pitch, which is their aim. When we come to study pitch we find that, though this also is a product of muscular action, the muscles involved—those of the larynx—work for the most part *unconsciously*, and we cannot train them directly as we can those of the chest and the mouth; they obey the demands of the ear and the mind without our being conscious of what they are doing. Training in pitch, therefore, is largely a training of the *ear*, as we call it, or a training in the *mental perception* of pitch, with the consequent power to imagine or to remember, and then to imitate.

The first pitch exercises will be simply to hear and then to imitate the note produced by the teacher. A little later, groups of two or three notes will be treated in the same manner. This is a much more complex mental exercise than the former. It involves not only memory of the commencing pitch, but also of the *movement* of the second note from the first, and of the next from that; and this auditory memory exercise, combined with the effort to reproduce the same sounds, and accompanied with the judgment of the correctness of the reproduction, forms a complex exercise, which will be easy to some of our pupils, but very difficult indeed for many others.

Voice Training.

Certain suitable phrases may be memorized for the purpose of being used as *voice training* exercises, to be repeated

with variations in pitch and in force as directed. The upper part of the voice as well as the lower must be exercised; and if judiciously used, the practice will extend the available compass of the voice. But we must keep in mind here the importance of avoiding strain.

The somewhat technical matter of "register" should be studied in some good manual of voice training. In general, the teacher will find that the tendency in children is to force the middle register of the voice too far up in pitch. This tendency will be strengthened if the training exercises are always of an upward stepwise movement. When using voice exercises which extend over an octave or so, some teachers have found it useful for this reason to approach the high notes by leaps of a somewhat large interval, while the stepwise progression is reserved for the descending passages.

Of course the scale names of the notes are not used. The exercise is learned by heart as a "tune," and then practised to the various vowel sounds, and at the pitch prescribed by the teacher's pattern. The question of scale or notation of any kind does not arise.

It is a common error to use the open vowel *ah* too much. A finer tone is often secured by using *oo*, which acts as an effective "muzzle" on those inclined to a harsh or loud tone. But the teeth must not be allowed to close for this vowel. The lips are somewhat closed and protruded; the teeth must be wide enough apart to admit the joint of the thumb. A consonant sound at the beginning of each note will sometimes help in the matter of crisp attack. The sound of *k* is sometimes used to secure firm attack, but it incurs the risk of inducing an undesirable tightening of the throat if much used.

In this connection, one form of vowel exercise is very much needed, and that is the translation, as we may call it, of the *spoken* vowel sounds of a word into the form they assume when *sung*. It often happens that a short vowel, as in "love," must be made long in singing, and that the

singer does not fall upon the exact quality of sound which suits it. This is a study in phonetics, and the teacher should have for her own guidance a complete scheme of the *long* sounds corresponding to each *short* vowel in the spoken word. The children should be practised now and then in "holding on" a short vowel sound in singing, and at a sign closing neatly with the final consonant of the word. This can be made very amusing, and at the same time forms a necessary vocal gymnastic.

All voice training exercises must be sung very softly, but without relaxation or flabbiness of the muscles. The children should have it early impressed upon them that to sing softly requires *more effort* than to shout loud, a fact which is often forgotten by those of more mature years. Young children must *never* be allowed to sing loud. They cannot yet distinguish between *forte* singing and shouting, and considerable practice in singing is needed before loudness can be secured without harshness. We must do without *quantity* of sound in the meantime in order to make quite sure of *quality*. The school singing one sometimes hears is such as to suggest that the children believe the chief difference between speaking and singing to be that the latter makes more noise than the former.

Exercises and Songs to alternate.

While we have insisted on the importance of breathing exercises and voice-training exercises, it must not be supposed that these alone should be learned and practised before we allow the children to sing any of the little songs which they enjoy so much. This would be a serious blunder. For an adult pupil, voice exercises alone might form the best training for a considerable time, without any practice in singing songs. We have to remember, however, that it is children we are dealing with, and the child rather than the subject will determine our procedure here as elsewhere in the curriculum. In teaching children we must always take the whole before its parts, practice before theory,

language before grammar—and the language of music also before its grammar.

The practice, however, must not proceed independently of the theory. Almost from the beginning the two must go hand-in-hand. A fault in the singing of the song will suggest a few minutes' practice of some exercise which we have designed to correct that fault. The song will then be sung again, with the improvement of tone or other feature learned through the exercise. It is not the exercise but the song which will interest the children; in every department of work the concrete thing has a value which the abstract quality or aspect of the thing cannot present.

Musical Notation.

Musical notation is of somewhat doubtful value in the Infant School. It can be easily taught, up to a point which is probably in advance of what most people would suppose possible; but the other aspects of music are of so much more educational worth that time spent upon notation is probably time which, if not misspent, might yet be more profitably employed otherwise. There are, however, some teachers who take pleasure in teaching a certain amount of musical notation, and they find that children of six or seven can reach surprising proficiency in it without any pressure or fatigue whatever. It is almost impossible to set any limit to what children even at that early age may learn of music under a skilful and enthusiastic teacher, with pleasure both to themselves and to her.

The scale may be learned by memory as a "tune," just as the voice-training exercises which were previously mentioned. It should not be learned by rote, however. The children should be made to feel that a scale is a complete thing, and not merely a chance series of sounds. They should be allowed to feel surprise at finding how like the octave is to the key—they might be helped by comparing the one to the reflection or shadow of the other. It will be pointed out that the note which most resembles the key,

next to its reflection, is the fifth, or dominant—the latter name, of course, not being used when speaking of it to the class. Much interest and true musical feeling may be given to the lessons by attaching to each note of the scale as much individuality as possible, either by the means suggested in the tonic sol-fa system or otherwise. It will be important for this training in mental effects that the key should be varied, and not always taken at the lowest part of the voice compass of the children.

Early Exercises.

Two common forms of exercise may follow this, or partly accompany it—(1) to name single notes, or the notes of a short phrase, after hearing the key note softly sung by the teacher—not played on the piano unless in the extremity of need ; and (2) to sing notes indicated either by manual signs or by pointing on the modulator.

We assume that the tonic sol-fa system will be used—at least for those preliminary exercises. The time has long passed when it might be necessary to indicate its advantages for securing the maximum of mental training with the minimum of trouble with notation. At the same time, all teaching of notation at this stage is of the nature of a luxury or a work of supererogation, and there is no need to select that system for the mere sake of speed. Some teachers find that they can make the standard notation as educative, and the matter may be left to individual choice.

Value of Ear Exercises.

Of the two forms of exercise mentioned above, the naming exercise may be put first for its educative value as regards the ear, or perception and imagination of pitch. The pupil's ear will be his guide in the voice exercises, and therefore cultivation bestowed upon the ear is "twice blessed." When a boy is to sing a required note he must first form an auditory picture of the sound he is to produce, and this picture must be sufficiently accurate and definite to

guide his vocal organs to the correct pitch, and to correct the pitch if he at first strikes it false. The muscles of the throat act spontaneously in this matter if the ear perception be true.

A person whose ear is sensitive to pitch will sometimes experience fatigue and even acute pain in the larynx from listening to notes which are sung or played flat. Through the perception of the flat pitch the listener's muscles become tense, as if in ineffectual efforts to correct the fault, the result being as much fatigue as if the listener himself were singing, and experiencing difficulty in keeping his voice from flattening. Similar sympathetic action of the muscles, though of a different set of muscles, may be noticed in an audience when a speaker's voice becomes husky ; many of the hearers will unconsciously clear their own throat by a slight cough.

This unconscious accommodation of the pupil's throat muscles to the tones produced by the teacher in his hearing may be assumed to be going on actively in proportion as the class is listening with attention. To this extent the hearing exercise is more than simple hearing—it is an unconscious voice gymnastic as well, and is thus in a double sense the proper preparation for singing.

The Scale.

For the early scale exercises, whether naming or singing, the strong notes of the scale, which are the most easy to recognize, should alone be used, and afterwards, in relation to those, the notes which lean upon them. Some experienced teachers of singing declare that if children in the Infant School merely learn the notes of the tonic chord thoroughly, so as to recognize and to sing them in any order and in any key, no more need be done, as they have mastered the fundamental difficulty of vocal music. The pitch of the key note should be changed frequently as before mentioned, and then the exercise becomes one in the recognition of scale relationships, and not a mere memory exercise in recognizing pitch.

Time Notation and Exercises.

If the teacher decides on the teaching of notation at all, the notation of time will probably give more trouble than that of pitch. Yet there is this advantage, that *the thing signified* by the time notation is more easy to recognize than that signified by the pitch notation. When we speak of a defective ear, we usually mean defective in the recognition of pitch; the perception of time or rhythm is less of a difficulty to children.

In time notation the tonic sol-fa system has the merit of very great simplicity, as its notation is based on the rational principle of representing equal times by equal spaces along the score, except as regards the smaller sub-divisions of the beat or pulse, which will not come under the notice of the infant teacher. When writing time exercises the teacher should pay scrupulous attention to this principle. A measure with only one note, or with only the continuation of a note from the former measure, should occupy exactly the same space as a measure with four, eight, or more notes.

The simplest practical form of time exercise is the musical drill, or the march to music. This is really a form of "beating time," though not as a musical conductor beats time. Some teachers find it useful to teach the orthodox "beat" for each variety of rhythm, and practise the children in beating correctly. If the exercise has no other value, it ensures the ability to understand and interpret the movements of the teacher's baton.

Pitch and Time separate at first.

It need hardly be said that time and pitch should never be combined in early exercises. Pitch exercises should be sung in uniform time, or without rhythm, while time exercises should be sung on one tone. In our first exercises we may attend to the "trumpet" stage, or the "drum" stage, but not to both at the same time.

This necessary advice may be regarded as a breach of our cardinal principle of taking the concrete before the abstract. The breach is only apparent. The real *concrete* thing in music is the *song*, and in every little song which the children learn or practise there are both pitch and rhythm actually combined. Our notation exercises, on the other hand, are information lessons and drill lessons, and in both these departments of work it is always necessary to take one thing at a time, or a few things in preference to a great number. Notation is, after all, only a series of symbols, as the letters of the alphabet are, and in dealing with such things our motto must ever be, "Divide, and conquer."

Duration and Rhythm.

Two aspects of time in music must be kept well before the mind of the teacher. These are, first, time properly so called, or *duration*; and second, rhythm, or the recurrence of *accent* at equal intervals of time. The latter implies more mental training than the former. It is more important in the actual performance of music, and its perception requires more attention to musical effects. In the rendering of the school songs there is no more effective element than good accentuation. There is none more persistently neglected in mediocre singing everywhere. It is, however, an element which is quite natural to a child, and we have to see that we do not permit his natural feeling for rhythm to disappear through attention to other things, rather than to give him the appreciation of it by teaching.

Time in the Standard Notation.

While the tonic sol-fa system has the advantage of a simple and rational time notation, those teachers who prefer the staff notation need not find its time notation an insuperable difficulty. It has often been taught to infant classes without either hard or unpleasant effort. One method of overcoming the difficulty of the conventional time-symbols of the staff notation may be shortly described, mainly

on account of the ingenuity of the teacher in devising a kind of *memoria technica* which was successful because of its appeal to the children's habits of thought, and not through any relation which it had to the subject.

The time-symbol first used was the semibreve, and its use was made familiar through practice. Then the teacher pictured this sign as a man moving somewhat slowly along a road. What might help him to move a little faster? A walking-stick. So the semibreve received its walking-stick, and thus became a minim, and at once moved off at twice the speed. But the man found his speed still too slow; he had to stop and speak to so many people by the way. How could he avoid all those friends who persisted in delaying him? The answer actually suggested by a pupil was that he might disguise himself: the teacher accepted the idea, and proceeded to blacken the man's face. In this way the minim became a crotchet, and again his pace was doubled. Still he wished to get on faster. He thought of another aid—he would put on a skate! Only one skate in the meantime, but to the children this was not strange, for some of them had begun to skate in this very way. So the crotchet with one skate became a semi-quaver, and once more his speed was doubled. (The sudden change in the figure implied in treating the stem of the crotchet one moment as a walking-stick, and the next moment as a man's leg would no doubt be a very serious inconsistency for "grown-ups;" but it was just the kind of topsy-turvydom which children enjoy, and the make-believe was all the more to their minds.) The next step, adding another skate to double his speed once more, changed the quaver into a semiquaver, and was an obvious step for the class to suggest. We need not follow the stages by which the form and value of the various rests were impressed upon the mind of the pupils, as these were of very much the same nature.

By the aid of those whimsical suggestions in the way of mnemonics, an infant class mastered the whole system of

time notation on the staff system in two or three short lessons, given by way of recreation at the end of their singing practice. And they enjoyed those lessons thoroughly. The worst criticism which can be made on such a method is that the time *might* have been better spent, and that those conventional symbols might very well be left alone for a few years, until the knowledge of musical notation should become a power of practical value. The power to read the *music* of a song may very well wait—at least until the power to read its *words* has been gained.

Action Songs.

Singing, as distinct from the study of musical notation, should play an important part in every day's work. A child breaks out into song naturally and spontaneously, and frequent opportunities for the gratification of this natural tendency must be found in school. But the natural song of the child is not always of the type which our school songs assume. The song of the child is often a mere accompaniment to some other form of activity, such as a game, a procession, or a dance. Here, if anywhere, the child seems to recapitulate the development of the race. He reminds us of the early forms of primitive music, such as the march, the war chant, or the choral dance. We have in our school repertoire songs of this very nature, commonly known as action songs. Most of them probably err through being too much of songs and too little of a mere accompaniment to some action, which is the principal thing.

These action songs—taking the term to cover musical games, vocal dances, and all the music that is designed to accompany actions—will not do much, we must confess, to promote that culture of tone which we have insisted on as being the chief part of musical teaching. In fact, some care may be necessary to prevent them from undoing the effect of our teaching in this respect. Yet they have a very distinct value in developing a *love* for music, which we shall find one of our best allies in teaching. They are

in accordance with the natural interests of the child, and we must find a place for them. We must learn to teach the child in his own way.

The action song, then, will have a large place in our scheme of Infant School songs. So far as the singing is concerned, we shall try to carry over into it the lessons from our other forms of music teaching, and aim at levelling up the vocal quality of the action song, instead of allowing it to drag down the level of our other work.

Playground Songs.

The singing in the playground, too, must be recognized. There are many free games played, especially by girls, of which singing forms an essential part. The teacher will note these, and she must not think it inconsistent with the dignity of the classroom to have those playground songs sung there for the purpose of improving their execution when sung by the children in their outdoor play. Every possible connection between the life of the school and the life outside the school should be made the most of; the result of the life in school should be the gradual raising of the life in the playground and in the home to a higher level, and the singing lesson may do a little to further this end. The chief difference between the Infant School and the Infant Playground ought to be that the former has a lower roof than the latter; for the rest, the less division between them the better.

Selection of School Songs.

A word may be added as to the kind of songs to select for the infants. The special songs of childhood, such as those outdoor songs we have mentioned, nursery jingles, and the other folk-songs which, like their games, the children find awaiting them as heirlooms from an indefinitely remote ancestry—these must have the first place, for the sake of the child, if not for the sake of the art. After these will come songs which we shall select, partly, but not

wholly, with regard to the art itself. Even in the Infant School our aim should be high as regards the musical quality of our songs. As in selecting poetry, so in selecting songs we can find examples which are gems of art, and are yet so free from technical difficulty as to be within the power of our little folks. We must remember, of course, that at this stage the song, both words and music, is wholly an oral thing. Difficulties of notation concern us as little as difficulties in spelling. This independence of symbols enables us to enjoy a wide range in the realities. We shall, of course, confine our choice to such songs as appeal to children in words and in music by their simplicity and directness of rhythm, melody, and meaning. Our choice will be further limited to songs which we believe will improve the taste of our pupils, and which we should like them to remember; what deserves to be forgotten cannot be worthy of being learned.

It is not merely good songs, but good songs *for children* which we need. The sentiments of many really good songs do not, and should not, appeal to children. And if the sentiment is beyond them, the æsthetic value of the exercise is lost.

With these restrictions, the whole wide field of vocal music is open to us, and there is no reason why we should limit our choice to what are known as "school songs." If a song is not worth singing anywhere except in school, it is not worth singing there. The ability to sing pleasantly a really good though simple little song is a result of our school work which will impress its value upon those in the home in a most pleasant way, and anything which recommends our work in this way will give us an added power of helping the children under our charge. Education is too broad a work for the school; the co-operation of the home is always essential. And for this end we may find that "music hath charms."

CHAPTER XV.

THE TRAINING—MORAL.

WE have left the discussion of the Moral Training of the infant to the final section of this book. This arrangement may be justified on the ground that, so far as formal teaching is concerned, moral lessons will occupy much less space on the time-table than the various subjects or kinds of instruction which have already been discussed.

On other grounds, however, it might reasonably be urged that the beginning of our discussion, and not the end, should have been devoted to moral training. The development of character is the aim of all school education, and any lesson or exercise which does not directly or indirectly conduce to this end is not educative, and is therefore out of place in our curriculum.

Character our Final Aim.

This ethical view of education is undoubtedly the right one. The ultimate aim of our physical education, for example, is not to produce athletes, but to develop a sound and healthy body, fitted in brain and in muscle alike to become the instrument for carrying out the highest ideals of the man, and not to act as a drag upon his achievements. There is no virtue which is not more easy to the healthy man than to the weakling; while many vices and faults of character, like those pathogenic microbes of which we now hear so much, find the most fitting soil to breed in

where physical weakness or nerve instability exists. A fine physical development does not ensure a high type of moral character, but a defective physical development will render such a character very difficult, if not impossible, to attain.

The Moral Value of Health.

The teacher of the young should be specially alive to the *moral value of health*. The traditional view of the connection between the physical and the ethical—not always expressed, perhaps, but very commonly acted upon—was that the mortification of the body was the best aid to the perfection of the character. The more modern view—not modern in origin, for it is the ancient Greek view, but modern in its application to education in our land—is the direct contrary to this; it may be expressed in the words that not *mortification* but *fortification* of the body is the best moral *régime*.

To accept this view will not only make the teacher's work more pleasant for herself and for those under her charge, but it will help in some respects to simplify the problems of school work. The body is a much more tangible thing than the mind or the character, and if care of the body is really advantageous to the development of the other sides of the pupil's nature, the teacher's problem becomes less abstract and more practical.

The Physique of Moral Defectives.

All modern research and tabulated statistics tend to show that the moral weaklings of society, the criminals and the defectives, fall far below the average standard of physical development of the useful citizens. Such average statistics do not, of course, prove anything about any individual child, but they demonstrate with absolute certainty that the fewer physical weaklings we turn out of our schools, the fewer moral weaklings will society be burdened with in the future; or, to put it otherwise, if we can promote the physical well-being of this or that

individual, we thereby remove him out of the dangerous class from which the criminals and other failures of society are mainly recruited.

Physical and Moral Well-being.

Already we, as educators, have realized that education, even if it be only the mental training given in all schools, is the best means at our command for reducing the numbers of the army of criminals, though it is no sure guarantee for its entire abolition. We must add to that belief this further one, that the best possible safeguard for our boys and girls turning out useful and respectable men and women is not merely a well-trained mind, but also a healthy and well-developed body. If we seem to assign to physical well-being a more important place than popular opinion will as yet accord to it, we are merely a little in advance of that opinion, which is rapidly awakening to the importance of this aspect of education.

In considering moral training, therefore, we shall place first among the means at our command the *physical care* of the child. Normal growth, sound health, and a brain allowed to develop naturally, with full opportunity for nourishment and growth, and an entire absence of strain—a normal healthy and happy childhood—is a more potent factor in forming character than all the moral lessons we can give.

The Ethics of Handwork.

The *hand training* which we give in school has also a very important moral aspect. There is a well-known couplet regarding "idle hands" which suggests to us one way in which handwork is of moral value, even if we do not accept literally the transcendental doctrine implied in the couplet. Nor need we subscribe to the literal truth of the Rabbinical maxim that "He who teaches not his son a trade teaches him to steal," in order to perceive another aspect in which the practice of handwork touches on the moral sphere. There is in all real handwork an *uncon-*

scious moral training ; and this should be *consciously* before the teacher all through her school work. The psychological and ethical importance of handwork needs more consideration than it has hitherto received.

Personal Endeavour.

The essence of handwork is the attitude of *personal activity*, not mere receptivity. However elementary or humble in form, it therefore develops a certain independence of thought as well as of action which is unattainable otherwise. The child must *do* the thing himself, and not merely see it done by some one else. And this habit, mental and physical, if carried through the whole of the school curriculum, and out into the wider life beyond the school, would tend more than anything else to correct many of our present-day weaknesses. In business, in social life, and even in sport, the bane of society is the crowds who are content to stand and see *others* do the things that are to be done. The mental, moral, and physical loafer ought to become a less common type if good use is made of the various forms of handwork and "occupations" which are available in school, and if the habits fostered by these are carried into all the other work as well.

Truth.

A prominent virtue which attaches to all handwork is *truth*. Pretence embodied in words alone may deceive both speaker and hearer ; pretence embodied in material laughs at the worker to his face, and leaves him no peace. No logic or grammar will enable a boy to detect a fallacy so readily as the work of his hands. The material either fits or it does not ; explanation or excuse is useless. Only truth to model and conformity to laws and conditions will result in a perfect or even a passable piece of work. The boy does not think of this, of course ; he only sees that the work is wrong, and must be put right, or done over again. But the mental and moral habit so acquired will

not cease to act when the manual work is laid aside. And it will continue to act all the more surely and all the more steadily if the teacher conducts all her lessons with the same principle clearly before her mind. There must not be any looseness or pretence in other work to weaken the moral habit which is being silently formed by the handwork.

Altruism.

Handwork, again, is *altruistic* in its essence—altruistic as to its psychological tendency, if not in its ethical character. The natural tendency of young children is egoistic, and the mere acquisition of mental knowledge or the performance of physical exercises does not tend to counteract this tendency. What is learned exists for the *self*. The product of all handwork, on the contrary, exists for *others*—as a fact for others, that is, though not necessarily as a possession. The thing made may be *mine*, in so far as it is my property; but it exists equally *for others*, as a visible and tangible thing outside of *me*, for others to see and to admire or to condemn.

In all expression, whether by word or by handwork, the pupil is giving out and not merely absorbing; but in the product of handwork the social element is embodied more clearly than in any other form of expression. There may be an artist who enjoys his creations in private, and will not share the contemplation of them with others; but this attitude is abnormal, and is certainly not that of the child artist. In him art is as freely altruistic as it ought to be everywhere. His work is a joy to himself largely in the measure in which it meets the approval of others. His handwork is from the beginning, to some extent at least, a working for others. The mental and moral habit thus developed need not be further discussed; its value is evident.

Respect for Labour.

One further benefit which will tell for moral culture we may very well expect to derive from handwork, and that is

the habit of looking upon manual work as of equal *dignity* with intellectual work, usually so called. This is a point of view which has much social significance. The pupil who has enough practice in manual work will soon find that it entails quite as much thought and intelligence as any other school exercise. He sees also that his teacher attaches as much importance to the handling of the grubby modelling clay as to the dainty colour work or the use of books. That fact ought to give him a useful perspective of the importance of the tasks of real life. School then becomes to him a place where he is trained not to *avoid* handwork, but to *perform* it in the best and most thorough way possible.

This is a moral lesson which we may not at first regard as of much importance in the formation of character, but it is really of the highest practical value. To esteem life's luxuries above its necessities is a blunder which leads to many moral errors. That certain classes of work are more worthy of respect than others is in itself no error but a deep truth; the common error lies in supposing that the superiority in dignity belongs to what are called "respectable" occupations—and "respectable" in this connection usually means work which can be done in black coat and white linen, without any soiling of the hands or expenditure of the "sweat of the face." In later school life it may be possible to lead boys towards a more just view of the work of life by direct instruction, by showing them that all work which is of real value to the world is "respectable," and that only the occupations which minister to the weaknesses or the vices of men can be called contemptible. In the Infant School such teaching would be entirely futile, but the same lesson can be given in a more impressive way. That lesson is being learned whenever handwork is being earnestly done. The teacher, whom we may assume to be one of the models of her class, if not the ideal heroine, is by turns artisan, artist, and teller of tales, and so unites in her person in the most real and

practical way the "professional" and the "industrial" elements of adult life.

As regards those moral lessons from manual work in the school, it must be borne in mind that such lessons cannot be given in words. It is not knowledge, but a *habit* of acting, and of thinking, and of feeling which is the moral outcome of the handwork. If we agree that the aspects of character mentioned are worth cultivating, we must seek to attain them in the only way in which they are attainable—not by talking and teaching, but by active doing. The honest effort to *do* is all that is needed to teach the lesson; words would only spoil the moral lesson and the handwork as well, for without singleness of aim—perfection in the work itself—much of the other benefits would be lost.

Cleanliness.

Another part of our moral training will be carried on by means of what we discussed under the heading of the Physical Care of the Pupil. There is a real truth underlying the proverbial connection between "cleanliness" and "godliness," and the teacher who succeeds in making the former a permanent possession of her pupils should not worry too much over any apparent failure to secure the latter. The latter virtue may indeed be more easy to reach in childhood than the former, but the habit of cleanliness will probably prove the more steady and permanent possession. There is a close mental relation between the scrupulous care of the body as regards cleanliness and that general feeling of self-respect which does much to make all sorts of vice and meanness impossible to a child. And here also we need no preaching to enforce the moral lesson; it is the habit itself which is the moral influence, and not any moralizing upon it.

Class Drill.

In the simple exercises which we described as "class drill," there is moral training underlying every lesson

practised. Habits of order, of regard for the rights of others as to their property and their feelings, of prompt and cheerful acquiescence in the established social order, and the like, cannot be formed by instruction and explanation. They must be formed by *action*, and repeated action, as all habits are. If the teacher wishes to give a formal lesson on any of those virtues, the lesson should come long after the exercises. Then she will probably find that the lesson has already been learned by the practice better than she could have explained it in words.

There is really little use in such formal lessons. The pupil has not reached the age of reflection. If he has formed orderly habits under the teacher's supervision, her work is well enough done. Her rule and her example are sufficient warrant for the rightness of the habits. We do not wish young children to sit down and meditate on how virtuous they are because they do things in such and such a manner. We simply wish them to *form those habits*. It is the practical side of morality which can best be dealt with in the Infant School, or perhaps in any school. We try to develop the habit of regard for the rights of others, for example, till it becomes a second nature. As to the *theoretical* basis of the virtue, philosophers are not agreed; yet the *practical* justification of the habit stands evident in every day's work.

Politeness.

The conventional *forms of politeness* are a valuable means of moral training for children. Ceremonies are never mere forms, especially to the young. They tend to create, or to preserve and strengthen, the feelings of which they are the appropriate expression. The boy who says "Thank you" may not feel any real gratitude, but he is more likely to do so than the boy who habitually omits the formula. The expression is at least a useful reminder of his indebtedness, and its omission is undoubtedly apt to blunt the sense of obligation.

All the little conventional formalities which make up so

much of the "minor morals" of daily life are a recognition of the great social principle of our dependence upon others, and of their rights being equal with our own. Social life implies a limitation of absolute personal liberty out of a respect for the equal liberty of others; and the neglect of the forms which express this limitation implies a disregard of the rights of others, which is a kind of social anarchy based on selfishness.

We all know the type of man who "rises above social conventions," as he puts it, because of his dislike of "shams" and his extreme regard for "honesty." He will not fetter *his* speech or his actions for the sake of others, but he is all the time demanding that others should curtail *their* liberty out of respect for him or for his ideas. The rise of this type is occasionally due to a need of protest against some form of social pretence, and is to that extent justifiable; it may also arise from a man supposing certain forms to be mere "shams," while they are really genuine expressions of feelings to which he is a stranger; it may still more easily arise from a want of respect for others, which expresses itself in the omission of the forms appropriate to the feeling of respect. In any case, it is not the type of character which is proper to childhood.

As a nation we err on the side of undervaluing the common courtesies of life. Foreigners of certain lands comment on our boorishness, while we distrust their politeness. Probably the truth in this aspect of conduct lies in the middle; but in the matter of courtesy we as a nation have not quite reached the middle, and there certainly seems little danger of our ever going to excess. We should be all the more careful to cultivate such forms of politeness as have been able either to take root amongst us or to survive.

Bodily Posture.

The *posture* of our pupils in school has some bearing on their moral training. We have already referred to bodily posture as something not merely physical. The slouching

gait and the furtive look are universally regarded as marks of a low moral type. If we wish our pupils to avoid developing this type of character, undoubtedly our best means of so doing is the simple process of eliminating the *physical attitude* which accompanies and expresses the character. An active, alert step and an open look may co-exist with a deceitful type of mind, but the probabilities are all against their doing so. The real character tends to express itself in the physical bearing, and there are some features of character which almost inevitably do so. It is sufficient for our present purpose to observe that the physical attitude has great influence upon the mental and moral. This is an aspect of the physical constitution which has not received its due place in educational discussions.

The Emotions.

Modern physiologists have come to the conclusion that any emotion may be weakened, if not entirely checked, by our refusing to allow it physical expression. If we refuse to frown, we cannot remain angry. If we do not shrink physically from pain or danger, the mental shrinking will disappear. We do not run away because we are afraid, but we feel afraid because we have started to run. This is putting the theory in the strongest and most paradoxical way, but it will help to make clear the point of view. It is a view which ought to be often before the teacher in her dealings with children, whose mental processes are perhaps more subordinated to the physical than is the case with adults. If she can cultivate a frank look and a firm, unhesitating utterance in her pupils, she will make it less easy for them to deceive her in their words. If they are accustomed to move with alert carriage to their work, any mental disinclination or preoccupation will tend to disappear.

The general principle underlying this view is a thoroughly sound one. No physical action is merely physical if it is a *conscious* action. No mental action is purely mental,

but implies at least a physical change within the brain. From those two sets of actions, or from those acts with their twofold reference, physical and mental, always conjoined, are built up the physical and mental habits which have as their result the formation of character. They form the material out of which moral conduct is made, as soon as conscious choice and reflection make the child a moral agent.

Knowledge and Virtue.

When we come to the mental sphere, and deal with the machinery of *intellectual education*, we are more obviously, but not more really, in close connection with the subject of moral training. Knowledge is not virtue, but virtue is dependent upon knowledge. An ignorant or a thoughtless person may not have a bad character, but he cannot have a good character in the best sense of the word.

A man's actions are always limited by the sphere of his knowledge. His conduct is at all times determined by the interests which he has formed, as regards persons and things, and his interests cannot extend to that of which he is ignorant. His desires and his purposes do not reach beyond the limits of his knowledge.

Many juvenile vices, as we call them, are due simply to a *want of knowledge*, and the absence of such interests as knowledge alone can bring. Cruelty to animals, for example, is in great part, at least, due to ignorance regarding them—ignorance regarding their feelings and the things which cause them pain. The cruel boy is, as a rule, the boy who has never had any pet animals of his own, and who has, perhaps, never realized that animals are sentient beings like himself. He gratifies his sense of superiority, or his feeling of curiosity, at the expense of the hapless animal; but he does not think of the animal except as an incident in this process. His thought, so far as he does think of the matter at all, is concentrated on his own interests.

If a boy cultivates flowers in his garden or in his window-

box at home, he knows by his own experience how people feel towards their flowers, and he is the less likely to pull up or destroy those he sees in other people's gardens. If, in addition, he has learned some things about the beautiful and wonderful life of flowers, even the wild flowers will become something sacred in his eyes, and they will not readily be torn up and left to wither by the roadside. The more he knows of things the more will his conduct regarding them be likely to coincide with what we, with our adult omniscience, regard as proper or becoming.

By such simple examples we may realize how knowledge makes for character. It is true with respect to plants and animals; it is equally true with respect to persons, the relationships with whom we have chiefly in our mind when we speak of moral conduct. But this is a much more complex sphere of thought, and one which lies almost beyond the sphere of Infant School training. The relations of the wider world do not as yet exist for the child, and we need not attempt to force them upon his notice. The school and the home are his world, and these form a sufficiently wide sphere for ideas which make for moral conduct.

Literature and Morality.

In all the "literature" of the Infant School there are elements which tell for moral growth, because all the lessons tend to throw some new light on the world of men, or of children, or of animals. A story may be in appearance non-moral, and yet it may contain elements which have a value for conduct. A story must not, of course, be immoral, in the sense of encouraging wrong. It must not even describe conduct which is wrong, unless the picture of wrong-doing is such as cannot attract or form a basis for imitation. Every wrong deed in our stories should be followed by strict and sudden "poetic justice."

We need not stop to discuss the vexed question of the relation between literature and morality. It is enough to observe that the *effect* of all good literature is moral. Lit-

erature does not produce this effect by means of exhortation or advice—always a feeble means of aiding moral growth—but simply by the presentation of noble thoughts which leave the reader in some degree better than he was before. Literature which contains no great thought or worthy conception cannot be called either good or great. The words of a great thinker, if rightly understood, are always morally educative, in this indirect fashion at least.

This indirect moral teaching is the best moral aid that literature can give in school. After our pupils have revelled in the enjoyment of a story or a poem, and through their pleasure in it have made every scene and incident their own, we should not be so cruel as to tag on a moral of our own by way of anti-climax. This would often spoil the whole educative effect, and degrade a gem of thought to the level of a commonplace sermon.

The added "Moral."

We may at some time have taken up a magazine to read a paragraph which at the beginning seemed part of a thrilling story, but which ended with an advertisement of some newly-invented and marvellously effective brand of pills. The deception irritated us so much that we at once made up our minds to suffer any disease rather than take those pills! So if pupils find that some piece of literature begins by lifting their imagination to a higher sphere than they had dreamt of before, and ends by merely saying, "Be good boys." the result may be to create a feeling of distaste for that wholesome piece of advice.

The real moral training of the lesson is simply the appreciation of it. This appreciation, if attained, cannot but leave our pupils somewhat different from what they were before. They have seen something in a new aspect, or they have seen some familiar aspect gilded with a new radiance. They have seen or felt something new—something which will abide in their memory, and so leave them in some way better fitted to judge and to act in their little

world. And this is true moral progress. This is something different from and more efficient than any advice or preaching. It is not a new rule added to their moral code; it is a new power given, which will make them more intelligent agents in all circumstances.

Information Lessons and Conduct.

Our common information lessons have also a moral value in education. Everything which helps a child to understand his surroundings enables him to act more wisely in regard to them. Understanding is necessary in relation to our inanimate surroundings, if we are to act in accordance with the laws of nature, and to avoid the disagreeable consequences which are apt to attend blunders in this sphere. Understanding is no less necessary, if we are to act in accordance with the laws which regulate our relations to the men and women around us.

Very gradually a child must come to realize his place in his little circle at home and in school. He learns from school experiences the relations which exist between himself and his companions, and between himself and his teacher; he learns the practical necessity for law and order. This carries with it the obvious wisdom of conforming to established rules. *Duty*, as an abstract conception, does not as yet exist in his mind, but *duties* in manifold form soon become familiar, both from actual experience and from the pictures he finds in the story lessons. He does not realize the imperativeness of duty as yet, but he does what is even better—he learns to admire stories of duties well done by others. This is a moral advance; admiration is only a step from imitation, especially in the case of the child.

The Playground as School.

One of the most valuable parts of the child's education is received in the *playground*. That education is received not from his teacher but from his *companions*. The value

of the playground education depends partly on the fact that there the child is most truly himself, without restraint or convention, and without any suggestion from the teacher which might tempt him to a pretended excellence; and partly on the fact that there he is in close contact with his fellows, the condition under which questions of morality chiefly arise. In the playground the child's conditions resemble those of after life much more closely than they can do in the artificial atmosphere of the classroom.

Playground Supervision.

From the importance of the playground in moral education there arises a deep responsibility to the teacher. A playground without supervision is a distinct moral danger. It may have influences which will largely neutralize the moral influences of the classroom. A playground with too much supervision, on the other hand, is of little value either for real moral training or for real play. The reality and spontaneity of the play is a condition of the reality of the moral training which play affords. In no department of school work are rules and methods prescribed for the teacher of less use than here. And any description of what the skilled and sympathetic teacher can do for children in the playground would read to the uninitiated like "counsels of perfection" impossible to be obeyed.

Children often need to be *helped* to play, but the help is most real when it is least perceived. During a game undesirable traits will emerge in certain children, and if merely checked with a "Don't," this playground lesson seems only another school rule made to check freedom and to spoil fun. Only when the child comes to feel that the bad habit spoils the fun, and to value the better plan which helps it, has he mastered the lesson to be learned from the game. And this lesson the teacher cannot give directly; it comes only from the child's own experience. Bad habits of a flagrant kind must be checked without hesitation, but this is only a negative lesson. The true

moral progress comes by learning what to do rather than what to abstain from.

More benefit flows from the general atmosphere of the playground than from any positive rules. That atmosphere ought to be one of unrestrained enjoyment, and the aim of the teacher must be to manage so that the children feel that this enjoyment depends upon their mutual goodwill and forbearance, upon fair play, and upon the other little playground virtues. These virtues, however humble, are the beginnings of the larger virtues which belong to the larger life beyond the school.

Its incidental Value to the Teacher.

The special disposition of individual pupils is more easily seen in the playground than elsewhere. Playground observation is even better than observation at home—for this reason, that in the playground the children are among their equals. In such surroundings they often show traits which are never seen at home.

Such observation of individual children is invaluable to the teacher. It enables her to adapt her treatment to the case of each, as regards both intellectual and moral progress. The knowledge gained makes all the difference between working in the dark and working in the guidance of full light. It puts the teacher in the position of being able to make every word tell, and not of merely scattering them broadcast in the hope that some at least will find a lodgment. Most important of all, it develops that type of mind which is essential to the best teaching—the mind which thinks of this and that individual with all their diverse powers and dispositions, and does not merely construct an ideal abstract child to teach. A teacher who begins her work with such an abstract type in view may soon convince herself by unobtrusive observation in the playground that perhaps not even one child in her class corresponds exactly to that generic type. And this is a lesson worth learning.

Direct Moral Training.

A few words may be said regarding the special and direct notice which the teacher must take from time to time of moral points, whether in the way of encouraging a certain line of action by advice and instruction, or of discouraging another by reproof or by actual prevention.

It is important to keep in mind that the child is at first entirely *non-moral*, and that his conduct cannot properly be called good or bad. His actions are the outcome of impulse, and are scarcely above the level of instinctive acts. For a considerable number of years, varying somewhat with the individual, he is only partially a moral being. Hence we must not assume that what we call right and wrong appear to him in the same light. We must speak to him in language which he understands, not only as to its meaning but as to its emotional force. We need not expect a young child to share our moral revulsion at some course of conduct, when he may even be surprised at our calling it wrong at all.

All wrong acts arise at first from perfectly natural motives or desires. They offer certain advantages, and we cannot expect a child to realize that these advantages are counterbalanced by very serious disadvantages by-and-by. It is just the want of this realization of the "by-and-by" which is the great cause of difference between the moral judgments of the child and those of the teacher. We cannot expect that a child should realize the future effect of conduct. He may understand it perfectly when we point it out to him, but the idea of the future is not yet strong enough to act as a deterrent when the present again suggests the wrong line of conduct.

The Moral Law as external.

Hence it arises that the moral law for the child must be *external*, imposed upon him from without. The teacher's word is law. To the teacher it is law, not because it is *her*

word, but because it is a moral rule which is valid for all, and is binding on herself no less than on her pupils. But to the pupil the command is to be obeyed simply because it is *her* command. He will gradually come to feel, and later he will see quite clearly, that the rules are based on something beyond the teacher's will. But we cannot wait for obedience till this perception arises. In the meantime the pupil is acting and is forming habits, and it is our duty to see that the habits which he forms are such as will promote his moral perfection as well as his mental and physical perfection.

If our pupils could cease from acting till their moral perceptions were developed, there would then be some ground for relying on "moral suasion" as the guide to conduct. But this is impossible. Long before the moral sense could reach the stage at which moral suasion becomes effective, our pupils might have acquired a moral bias through wrong habits which would hamper their moral growth all their lives. The moral sense develops only through *action*, conjoined with thought or *reflection*, not through instruction or persuasion; and in the meantime our duty is to prevent our pupils from forming such habits of action as will hinder the attainment of the character at which we aim.

Control necessary.

We are thus led to the position that moral training involves *control* by the teacher. Intellectual growth demands control no less. Instruction and learning are too important to be left exposed to interference by the ignorant caprice of any pupil. If we value teaching, we must maintain such discipline as will make teaching possible. Some of our exercises may be uninteresting to an individual; but even though we fail to enlist his interest, we cannot tolerate that he should either avoid the work or distract the attention of others from it. Cases will arise where, despite the best skill of the teacher, a positive control must be exercised. This is always regrettable, for forced effort is of low edu-

cational value as compared with voluntary effort. But it is sometimes unavoidable.

“ Corporal Punishment.”

The degree of compulsion may sometimes reach its climax in what is known as “ corporal punishment.” All teachers have had this subject before them in one form or another, and we do not propose to go into the arguments for and against it. One or two points may be noted in passing.

Such punishment is always an *evidence of failure* in education. Were the relations between teacher and pupil what they ought to be in order to secure the best educational results, punishment would be entirely unnecessary. But at the same time it may be the lesser of two evils, and the means of averting still more disastrous results.

For this failure the teacher may not be to blame. Adverse home influence sometimes affects a child to such a degree and in such a manner that no rational treatment hitherto discovered is sufficient to make him at once a law-abiding member of a class. And if one pupil plays the part of anarchist, the interests of the class may demand his prompt suppression. Had we only the rebel to deal with, we might indeed easily lead him by other methods into a more reasonable frame of mind; but meantime there are the thirty or forty other pupils whose interests cannot be quite ignored.

On the other hand, the fault may be the teacher's. If in two classes in the same school we find that the teacher of the one rarely or never requires to exercise physical compulsion, or anything approaching to it, while in the other, composed of children from the same or similar homes, compulsion is daily necessary, only one conclusion is possible. And from such experiences one may almost lay down the general rule that a teacher's skill and efficiency is in inverse ratio to the amount of compulsion she finds necessary.

We should all be ready to agree that, of two drivers

of horses engaged in similar work and with similar training, the one who needs to use the whip least is the more skilful. And if we were the horses instead of the spectators, our opinion would tend still more strongly in the same direction. To press this analogy might be offensive, but it is sufficiently suggestive as it stands.

As a final point regarding corporal punishment, teachers in our country must be aware that there are other lands, no less civilized than our own, and even more so if interest in education is any test of civilization, where such punishment is entirely unknown, and would be regarded as a form of barbarism. Indeed, one is almost forced to conclude that our country will soon stand alone among civilized nations in retaining corporal punishment as an instrument of education. Doubtless it is a relic of barbarism, but so are the traits which make this form of repression occasionally necessary. Were the standard of civilization in our homes, rich and poor alike, higher than it is, the position of the teacher and the popular respect for her work would soon remove the necessity for any form of compulsion in school. While school is looked upon as an interference with the liberty of the subject, and education is not seen to be either a necessity of life or a benefit, it is inevitable that cases should arise where the child is biassed against the whole economy of school life, and regards the teacher from that attitude of armed neutrality which easily passes into passive or active resistance.

When we come as a nation to realize what education is, the need for physical compulsion will have passed away. We shall not have reached the millennium even then, but the power of the teacher to guide the formation of habits aright will have acquired a degree of effectiveness such as force cannot give.

The Power of Ideas.

We may next look at another strong moral influence in the ordinary school work—the *power of ideas*. Every student

of psychology—that is, every teacher—knows that an idea is, in its cerebral aspect, a nascent or a suppressed act. The *mental image* of an act is the same in most of its elements as the *doing* of the action; and if the picture is very vivid, it will realize itself in action in spite of the will of the individual. If we think vigorously of a word, we are hardly able to avoid pronouncing that word. In strong excitement we at once act out the idea in our minds; and the weaker our power of self-control is, the more surely will our ideas explode into action. Hence to a child every clear picture of action is a possible cause of action.

“ *Don’t say ‘Don’t.’* ”

The evident deduction from this in education is that we should be careful as to the pictures of action which we present to children. To give a picture of wrong-doing in order to warn against wrong is false method; the picture is likely to be stronger than the warning. Hence the importance of the careful selection of literature for the young. Hence also the force of the common maxim that all moral law for children should be of a *positive* form. “ *Don’t say ‘Don’t,’* ” is the brief and sensible formula into which some one has compressed a rule of very wide application. Give abundant examples of the right, and avoid all pictures of wrong. Let the child’s mind dwell on the noble and the beautiful in action, and his store of such pictures will preach to him more effectively than a whole system of moral maxims. Leave over “ *Thou shalt not* ” as long as possible.

Common Faults—

The most common *faults* of children need some mention in this connection, but we must premise that we use the word “ *fault* ” in a sense which is compatible with the non-moral character of young children. Their faults are not morally wrong in the sense in which a similar fault would be in one who had come to the years of reflection; they are for the most part due to the want of reflection,

of experience, and of forethought, combined with a strong tendency to act upon the impulse of the moment. The active instincts and tendencies arise long before the power to regulate them. Hence, while we shall call certain acts and tendencies "faults," we do so either in view of their future influence upon character, or in view of their influence upon the present comfort of others. They are tendencies which require to be replaced by other tendencies of a more social and altruistic nature.

Self-Assertion.

Most of the faults of childhood are due to the *self-assertion* which is natural to the child. All the unconscious actions of the infant tend towards the preservation of his own life, and his earliest conscious acts tend towards the same end. This is natural and instinctive. Moreover, at home, where the youngest child is master of the household, the attitude of all around him encourages this self-regarding habit of mind and conduct. It is not yet *selfishness*, for that term implies being aware of the claims of others and consciously preferring our own interests. The young child goes straight for his own interests, without ever seeing or thinking of those of others. But this habit is one which will soon degenerate into selfishness of the ordinary adult type, unless it is replaced by that regard for the interests of others which is the backbone of morality, and which sums up nearly all the morality possible for a child, if not for an adult as well.

The first moral lesson which a child receives in school is one taught by the school itself—by the community of small citizens all on the same level, and no longer each the tyrant of a separate home. The mere taking of his place *among others similar*, the "orienting" of himself, is a moral training which school alone can give to most children. The child who soonest accepts the new commonwealth in place of the old autocracy of babyhood is the one who has for the time made the greatest moral advance.

The Moral Function of Sympathy.

As a corrective to the instinctive self-seeking of the child, there is another instinct which we develop by most of our moral lessons whether in picture or in precept. That is the instinct of *sympathy*. It varies much in its strength. In many children this instinct alone would not only lead them to avoid most of the unlovely faults of the school, but would train them unconsciously in the elements of right conduct better than any teacher could ever do. It is this instinct which makes some persons what we call "nature's gentlemen"—men who perceive instinctively what would injure the feelings of another, and who avoid it as the most natural thing for them to do. The want of this insight leaves a man a boor or a blunderer all his life, no matter what external polish of conventional manners he may have acquired. The child who is strong in this natural perception of the wants and needs of others, or this instinctive sympathy, will need little in the way of moral training or instruction.

Its Cultivation.

Where the sympathetic instinct is weak, it may be cultivated, and this cultivation is the chief part of our moral training work. It can be cultivated by play with other children, where the one is not allowed to dominate the many; by stories of other children; by the care of animals—the feeling of oneness with these being often stronger in early life than the same feeling towards other children; and similarly by the care of plants as living and growing things. There are many parts of the ordinary work of the school which will afford scope for the development of sympathy, if our school curriculum is at all on the proper lines; but the best cultivation of it comes from *doing*, and not from talking. Sympathy is something to be *felt*, not to be explained or talked about. Unselfishness is a virtue which a child should never be *conscious* of. Selfishness in

its grosser forms must, of course, be checked when it appears, but where it is absent its absence should be taken for granted—just as we take correct spelling for granted in educated people, and only think of it when a solecism attracts our notice. We do not wish children to think of their normal daily conduct as matter for commendation, or to develop the attitude of moral priggishness.

Telling Lies.

One of the common faults of childhood of which much has been said is the habit of *telling lies*. This is certainly a habit which we cannot regard with tolerance, but it is one of which we may easily take too pessimistic a view. It may often happen that one person tells the truth from a worse motive than that which leads another person to tell a lie; so that, on the whole, truth-speaking is not necessarily a positive virtue.

There is one aspect of falsehood in children which ought to be considered. A very young child *cannot* tell a lie, in the proper sense of the term. A lie such as the adult can compass with ease involves some mental processes which are impossible until the thinking power has developed considerably. It requires, for example, the power to hold before the mind at one and the same time these different things: a knowledge of the truth; a motive for concealing this; and a plan of so doing, conceived with a calculation of how the particular person whom we are to deceive may best be imposed upon—and this alone may involve the comparison of several alternatives. Now at an early age even this last mental process alone is too hard for a child; one idea at a time is all his mind can grasp. Indeed, all through school life there will be found some children who have a difficulty in realizing two things at once sufficiently to compare them with any exactitude, or to choose deliberately when an alternative is offered. One vivid idea monopolizes the whole field of consciousness for the time.

Some Causes of Falsehood.

Many children who deviate much from the truth in their accounts of the past do so partly through the weakness of the memory picture, and through the strength of any imagination picture which is aroused by interest to a strong pitch of vividness. The wish becomes father to the thought in a way which it is hard for adults to realize, unless they have had to do with such children in a very intimate and personal way. Feeling and emotion colour our views of the past, even with all our maturity of mind, in such a way that no two witnesses of an event in which they are diversely interested will ever agree on the account of that event. They *see* it differently in the first instance, from their strength of interest; and afterwards those interests are active in still further accentuating the points of difference in their views. All those influences which make it hard for the adult to keep a faithful memory picture act with so much more strength in children that it is for them not merely difficult but impossible. Without elaborating the point, we may safely say that a want of literal truthfulness in remembering and reporting on the past is normal in childhood. And this is quite apart from any moral question.

A Symptom rather than a Disease.

Aberration from the truth only acquires a moral significance when there is a distinct *intention to deceive*. And then the moral quality of the action will depend much more upon the *reason* for the deception than upon the means employed. In any state of warfare or conflict deception is a recognized means of defence for the weaker. It is not much more immoral to deceive an enemy than to shoot him. We put the contrast in this way to indicate that the moral question does not really concern itself with the act of *deception*, but with the *warfare* or conflict in which it is an incident. To a pupil who is at war with his teacher deception may be the only weapon which is avail-

able. The teacher has others. We must recognize this aspect of falsehood in order to understand it, and still more in order to cure it. In this view of the question falsehood is not so much a disease as a *symptom* of a deeper disease—that of opposition between teacher and pupil. *This* is what must be cured; the other will then disappear of its own accord. Confidence and deception are mutually exclusive.

There are other forms of falsehood, such as telling wonderful tales to companions in order to impress them with the dignity of the speaker; and those forms are still harder to cure, for they are often merely a crude imitation of the more accomplished forms of social deception which prevail in the home. Here, again, it is not so much the actual falsehood as the selfish, boastful spirit which dictates it that we should regard as the real moral disease.

Courage the Antithesis of Deception.

Yet there is another side to falsehood, even as a means of defence. We should try to impress upon our pupils that it is a form of *cowardice*. *Courage* is the real antithesis to falsehood as it usually occurs in school, and mere truth-speaking is a weak substitute to recommend for this. The pupil must be led to look on falsehood as something unworthy of himself, in whatever circumstances he may stand. Unless his truthfulness has some such firm basis as this, it can hardly be regarded as sure and permanent.

Telling Tales.

In so far as the teacher is a *friend* in the pupil's estimation, he will be treated with frankness, and not with deceit. But, on the whole, the pupil's companions are still closer friends than the teacher. If the dilemma arises, we must expect a boy to stand by his companions, even at the risk of hostility towards the teacher. No pupil should ever be allowed, much less encouraged, to "tell tales" or act the part of spy or informer. The slightest approach to

this in class government implies such a state of feeling as will make real truth and honesty impossible. Loyalty to comrades is a much higher virtue than obedience to superiors, whether in school or in after life. In the matter of mere government we must accept our position of teacher with all its disabilities, and not ruin the morals of our class by espionage to make our task easier. Tale-telling is as malevolent as bullying, and differs little from it in essence. It carries with it, however, a pretence of subservience to the teacher, if not of friendship, which may blind her to the moral repulsiveness of disloyalty to companions. This is the worst form of character which our schools can produce, but happily it is one which the teacher can absolutely abolish. The general motive for tale-bearing is to curry favour with the teacher, and if the actual result of it is found to be the reverse of this, an individual is not likely to repeat the experiment.

Character a Growth.

This may suffice for the vices of childhood. There are others than those mentioned, but they are similar in type. Many of the faults which vex the teacher in school are simply the signs of want of development in the child. Some are due to ignorance, and will naturally disappear with the growth of intellectual attainments. Others are due to the weakness of natural instincts, such as sympathy, which will develop naturally in most cases with advance in age and experience. Character is not a thing which we can make by cutting it out to a certain pattern. It is the result of growth, and we must wait for it. At the same time, we must do our part in forming the kind of habits which make for good character, and giving the kind of mental training which will be a strength and a guide to conduct when conduct becomes more a matter of thought and less one of impulse. The hope of the teacher should be *not perfection but progress*. There should be advance in the pupil's way of acting towards others as well as in

his way of speaking or of writing. And in order to judge whether this advance is being made or not, the teacher requires to know each pupil individually, and to know him as intimately as possible, in the school, in the playground, and, if possible, in his home relations.

We are apt to forget how much character is a matter of growth and change. A character which suits very well a child of three would be a poor one for a boy of ten. And any boy, however "good" he may be, if he were to grow up to manhood with precisely the same character, would be a very poor specimen of a man. A criminal is often simply a man whose moral nature has been stunted in its growth. He remains a child in his selfishness and want of regard for the future, while becoming a man in his powers of gratifying that selfishness at the expense of others. One whose self-restraint does not grow at the same time as his strength is a positive danger to society. The normal or "good" character is different for different ages.

The Virtues of Childhood—

The ancient Greeks treated of morals chiefly under the heading of the *virtues*, a method which has much to recommend it practically. We are apt to consider too exclusively the inward aspects of morality, and we lose thereby some clearness and definiteness of thought. The education of our day would profit much from some good treatise on the "Virtues of Childhood." Many of us have a very vague idea of what a really good boy or girl at any given age ought to be or to do. The virtues of the grown-up will not suit the child any better than the clothes of the grown-up would do. We should have as distinct an idea of what the character of a pupil ought to be as we have of what his intellectual power ought to be, at any age; but it is more than doubtful if we have such an idea. We content ourselves too much with the negative process of correcting faults, and often without considering how far they really are faults at the age of the child. But to construct an

ideal child-character, taking full account of all the differences of disposition and temperament among children, seems too heavy a task for any one thinker or writer to attempt.

As given in Literature.

Literature—the “Sunday-school” literature of a generation ago—seriously made the attempt to depict the ideal child; but the writers made the same mistake which the painters of a still earlier date made in depicting children: they made the child after the model of the man, with the same proportion of parts—in the one case of moral parts, in the other of physical parts. The result in either case was caricature. The child endowed with all the virtues of adult life was a moral monster, and in the story-books he usually died early. In this, at least, the writers did well, for such children had nothing to gain by living; no author, however imaginative, could carry the life of his hero beyond the point at which he had attained to a perfect character. As for the real boys whom we know, they are different. They can show more or less advance in character, but the character which they possess is that of *boys*, which is different from that of men—whether worse or better we need not inquire; the criterion is different in each case.

The modern books written for and about boys and girls do not err so much in this line, for they usually give up the attempt to depict character, and confine themselves to incident. But they often caricature the young people in describing their wonderful adventures as much as the older books did in detailing their wonderful virtues. On the whole, the teacher will have to depend on her own observation for her ideal of the normal character of childhood, until literature attacks the problem with more knowledge of its conditions.

The Teacher's View of them.

In dealing with virtues and with vices alike, the first requisite for the teacher is to take wide and moderate

views of things. Children are rarely so good or so bad as they appear. Much of their goodness is spasmodic, and wants long practice to be confirmed as an element of character. Much of their badness is a mere passing phase of development, which time, with ordinary helpful attention from parent and teacher, will bring right in due season. For the rest, the teacher should trust much to the indirect influences which we have mentioned—to the contact with and imitation of others at a higher level of attainment; to the fruitfulness of the ideals presented in the literature studies of the school; to the humanizing influence of mingling with companions with whom they are in sympathy; to the habits of order, punctuality, neatness, co-operation, politeness, and all the other minor morals of the school routine. Whatever may be the value of direct moral teaching in the upper school, it is indirect training which is best in the Infant School.

Religious Instruction.

The question of religious instruction is so closely connected with moral training that it is necessary to mention it here. In early life, and indeed all through life, the practical part of religion is identical with morality. Of the remaining elements, that of belief or creed does not come properly within the period of school life at all—certainly not within the Infant School period. In all our school work we avoid teaching what the pupil cannot understand; and if we apply the same simple and reasonable rule to matters of religion, we shall run no risk of touching the questions which are apt to be raised controversially about the difficulties of religion in schools. As educationists, then, we exclude creeds from our discussions. But besides creed and practical morality there is an emotional side to religion which is peculiar to it. This is best summed up in the word *reverence*. The question for the teacher, then, is whether the emotional side of religion is a suitable matter for culture in early life.

The Cultivation of Reverence.

The period of childhood is, as we have formerly indicated, peculiarly an emotional period, though the range of emotion is different from what it will be in later years. Many of the common emotions of human life do not appear till childhood is past, and these we need not consider in school. The emotion of reverence, however, is not one of these. It appears early, in one form or another, and it requires direction and cultivation.

Those who have regarded religion as a "subject" unsuited for childhood have usually taken religion as equivalent to theology. Hence the position has been sometimes defended that a child ought to be brought up without any religion, in order that he may be able to choose without bias when he is old enough to understand. The result of this course might be predicted, if our view is correct, but it can be definitely proved from actual examples; the boy so brought up has his emotions stunted and atrophied, and when he reaches maturity, so far from being an unbiassed judge in matters of religion, he is actually unable to appreciate the character of religious thought and experience, and is as unfitted to judge in such matters as a person who has had his æsthetic emotions similarly dwarfed would be to pronounce an opinion on matters of fine art.

Analogy with Æsthetic Culture.

There is, indeed, a considerable degree of analogy, to say the least, between æsthetic culture and the culture of the emotions which constitute so much of religion. If we wish a boy to understand art and to appreciate beauty, we show him objects fitted to excite his admiration. They need not be exactly the same objects as appeal to our mature judgments. In pictures, the child admires colour which we may call crude, and in music he prefers sounds which we find bald in effect. Yet we rightly give full play to the enjoyment of such beauty as appeals to his

stage of development, while we also try to arrange so that his standard of approval shall rise from stage to stage till it reaches a time when it becomes its own guide. It is not by canons of art judgment learned when he grows up that a boy will ever attain to the enjoyment of beauty, but by the actual enjoyment of what is to him really beautiful for the time. We must let the emotional *enjoyment* precede by a long way the theoretical *explanation* of the enjoyment. This is to follow our old educational maxim of letting practice precede theory, and familiarity with an object precede its explanation.

It is not otherwise with the exercise of the religious emotions. We do not trouble the child with the theoretical reasons which prove reverence to be a reasonable emotion. But we provide, in our simple exercises of religious worship from day to day, and in our treatment of selected Bible stories, an opportunity for the religious emotion to find its natural development. In school or in church it is an error to shut the child out from the devotional exercises until he can understand all that is implied. The atmosphere of reverence is too valuable a means of true education to be neglected, and like all means of education it is most powerful at the time when it is most in accordance with the child's stage of natural development. The omission of the experience till later will make it of less effect, and will leave the child's whole nature the poorer from having one of its essential elements stunted through want of exercise. It matters little or nothing to the child's education what the particular creed of the teacher may be, provided that she is truly religious, and is pervaded with that reverence which is the really important thing for childhood in religion, next to the practical aspects of it which we have included as part of morals.

Bible Stories.

So far as religion is concerned, then, we can hardly speak of religious *instruction*, but rather of religious *training*.

The teaching which bears directly on religion may be practically confined to the telling or the reading of Bible stories. These stories should come in as literature in any case, but they have a special significance under this heading as being the teaching material most appropriate to develop the sentiment of reverence. Regarded merely as literature, the Bible Story is one of the educational forces at our disposal which cannot be ignored, if we think of education apart from the unfortunate controversies which the question of religious teaching has often stirred up.

The boy who leaves school without a competent knowledge of the Bible, in its English version, whatever else he may have learned, cannot be regarded as educated. As to the practice of reading the Bible without any explanation by the teacher, we may test its educational value by reading Shakespeare or Milton in the same way. The Bible is to be *taught*, and well taught, if we are to give our pupils the full benefit of the most educative literature which our English tongue enshrines. Whatever educational arrangement fails in this point stands condemned from the point of view of education, and that is the only point of view which we consider here.

Order of Teaching.

The Bible is not a book, but a literature. This suggests that the teacher must select from among its contents those parts which will best secure the ends for which this literature is being studied. The order in which the books happen to stand in the English version is irrelevant to our purpose in the Infant School. What we have to consider is not history or theology, or the order of study which suits these, but what portions are most suited to the mind of the child. We shall find parts suited for each stage of the school course, and by confining ourselves to these parts which are "in season," as we may say, we shall obtain the maximum benefit from each part in turn, and shall keep fresh the interest of our pupils all through.

The Old Testament will be found the most suitable material for the Infant School, and to this we should add the portions of the Gospels which deal with the childhood of Jesus. We are led to this selection by the natural interests of childhood. These centre readily round children and their doings, and also round stories of action. At the same time, the moral ideas of the Old Testament are simpler, if ruder, and more easily apprehended by young pupils. The morality of the New Testament, which is marked by the highest altruism, is particularly suited to those who are just leaving boyhood and girlhood behind, and have a natural forereaching of the emotions and the intellect towards the wider world around; but this lofty morality cannot in any true sense appeal to the children in our Infant Schools. We must, in short, exercise the same discretion and care in dealing with the literature of the Bible as in dealing with other literature, and keep in view the character and the limits of the mind to which this literature is to be offered as nourishment. If we use it thus, we shall find our best storehouse of educative matter in the Bible.

APPENDIX I.

SPECIMEN SCHEMES OF WORK FOR INFANTS.

THE UNIVERSITY OF MANCHESTER DAY TRAINING COLLEGE (WOMEN STUDENTS).

PLAN OF SCHOOL STUDIES IN THE KINDERGARTEN AND CLASS I.

Illustrating the Principles of Selection, Sequence, and
Connection of Subjects of Instruction.

By MISS CATHERINE I. DODD, *Lecturer on Education*
(*School and Kindergarten, Brunswick Street*).

A.—HISTORIC AND HUMANISTIC MATERIAL (LIFE OF MANKIND).

	<i>Kindergarten, Age 3-6.</i>	<i>Class I., Age 7.</i>
<i>Subjects for Moral Training.</i>		
Bible History.....	Simple Prayers & Hymns. Festivals.	Simple Hymns & Prayers. Story of Joseph.
History	Folk Lore : Old English Fairy Tales.	Robinson Crusoe. Greek Legends. Jason. Ceres and Persephone.
Literature	Nursery Rhymes and Nature Poems.	Nature Poems.
<i>Subjects for Art and Industrial Training.</i>		
Singing and Acting.	Simple Songs. Dramatic Representation of Fairy Tales and Nursery Rhymes.	Simple Songs. Dramatic Representation of Greek Stories and Robinson Crusoe.
Drawing.....	Simple Forms— Pictures in Coloured Chalk on Blackboard. Drawing in Sand.	Simple Freecarm and Free- hand Forms, including objects connected with History and Nature Study. Pictures on Blackboards.

	<i>Kindergarten, Age 3-6.</i>	<i>Class I., Age 7.</i>
Painting	Brush Drawing and Line Colouring. Flowers and Patterns based on Blob and Line Colouring.	Simple Brush Studies. Patterns and Nature Studies. Colouring.
Modelling	Spherical Forms and Objects in connection with Fairy Tale.	Simple Objects from Literature and Nature Study.
Handicrafts	Paper Cutting. Paper Folding. Weaving. Bead Threading.	Weaving. Basket Making. Making Simple Objects in Robinson Crusoe Story.
Physical Training ..	Singing Games. Musical Drill. Marching. Sand Garden Exercise. Tea Parties.	Old English Games. Drill, Marching, Exercises, Running, Jumping, Ball. Breathing Exercises.
<i>Subjects for Language Training.</i>		
Reading	Breathing Exercises. Sounds and Powers of the Letters of the Alphabet.	Breathing Exercises. Vowel Sounds. Word Building Easy Reading.
English	Conversation. Oral Composition. Learning Poems. Telling Stories.	Oral Composition. Telling Stories. Learning Poems.
Writing	Drawing and Building the Letters of Alphabet. Writing in Sand.	Writing Letters and Figures on Paper.
Ancient and Modern Languages		Easy Oral French or German.

B.—NATURAL SCIENCE AND MATHEMATICS.

	<i>Kindergarten, Age 3-6.</i>	<i>Class I., Age 7.</i>
<i>Geography and other Nature Study.</i>		
Physical	Visits to Parks and Gardens in Summer.	Visits to Parks and Gardens. Land and Water. Islands. The Seaside. Making Robinson's Island in Clay and Sand.
Political		
School Journey...		
<i>Natural History.</i>		
Plant Life	Common Plants in connection with the Child's Environment and the Fairy Tales.	Familiar Plants in connection with the Literature. Growing Bulbs.

	<i>Kindergarten, Age 3-6.</i>	<i>Class I., Age 7.</i>
Animal Life.....	Domestic Animals in connection with Child's Environment and the Fairy Tales.	Familiar Animals in connection with Literature.
<i>Mathematics.</i>		Visit to Belle Vue.
Number.....	Counting. Gifts I., II., III.	The four Simple Rules, Divisor and Multiplier not exceeding 10.
Measure	Paper Folding. Paper Cutting.	Paper Folding. Geom. Figs. with Gifts.

STUDENTS' SCHEMES OF LESSONS FOR THREE WEEKS,

As Worked Out in Miss Dodd's School.

I.

	<i>First Week.</i>	<i>Second Week.</i>	<i>Third Week.</i>
Fairy Tale "The Three Bears."	<i>a.</i> Bears' home and names—Bruin, Mammy Muff, and Tiny Cub. <i>b.</i> Furniture—bowls, chairs. <i>c.</i> Golden Hair. <i>d.</i> She visits the bears' house and tastes the food.	<i>a.</i> She tries the chairs and the bed. <i>b.</i> Bears' return and conversation. <i>c.</i> They look for the intruder.	<i>a.</i> They go upstairs. Conversation about beds. <i>b.</i> Goldilocks awakened. <i>c.</i> Bears run after Goldilocks. <i>d.</i> Recapitulation.
Nursery Rhyme.	"Little Miss Muffet."	"Goosey, Goosey, Gander."	
Drawing.	Table, Bowl, Pan.	Chair, Stairs, Rabbit, Ivy, Original Pictures.	Nuts, Bed, Squirrel.
Modelling	Table, Bowl, Pan.	Wash-basin & Jug, Robin's Nest.	Bed, Nuts.
Occupation.....	Paper Cutting—Pan, Bowl, etc. Gift III.	Paper Cutting—Objects in the Bedroom.	Paper Cutting—Squirrel, Nuts.
Acting.....	The Story and Nursery Rhyme.	Story.	The whole Story.
Singing.....	"The Trees are waving to and fro."		"Fly, Birdies, Fly."
Nature Study....	<i>a.</i> Bear. <i>b.</i> Bear. <i>c.</i> Robin. <i>d.</i> The Wood.	<i>a.</i> Ivy. <i>b.</i> Rabbit.	Squirrel. Nuts.
Number.....	Three.	Three and Six.	Six.

II.

	<i>First Week.</i>	<i>Second Week.</i>	<i>Third Week.</i>
Fairy Tale.....	<i>a.</i> The Cottage in the Wood. <i>b.</i> Lost Spindle. <i>c.</i> Gold Mary is scolded by Step-mother. <i>d.</i> Beautiful Meadow.	<i>a.</i> Baker's Oven. <i>b.</i> Apple Tree. <i>c.</i> Mother Holle. <i>d.</i> Life with Mother Holle.	<i>a.</i> Gold Mary is home-sick. <i>b.</i> Conversation with Mother Holle. <i>c.</i> Shower of Gold. <i>d.</i> Welcomed home.
Nursery Rhyme.	"Here we go round the Mulberry Bush."	"Shake the Apples Down." "Pat a Cake, Baker's Man."	"Snow, Snow, Beautiful Snow."
Drawing.....	The Cottage, Spindle, Well, Bucket.	Loaf, the Oven, an Apple Tree.	A Bed, Goose, Golden Gate.
Modelling	The Bucket, Jug, Broom.	Loaves, Baker's Shovel, Sacks of Flour, Apples.	A Bed, Mother Holle's Cap.
Occupation.....	Paper Cutting — Things in the Cottage.	Paper Cutting — Loaves, Baker's Shovel, Sacks and Apples.	Mother Holle's Cap, the Goose, the Golden Gate.
Acting.....	The Story.	Nursery Rhymes and Story.	Story.
Singing	Hymns, Nursery Rhymes.	Hymns, Nursery Rhymes.	Hymns, Nursery Rhymes.
Nature Study and Object Lessons.....	Well, Spinning-wheel, Cow.	Meadow and things in it, a Loaf, Apple and Apple Tree.	The Goose, a Bed, Gold.

SCHEME OF WORK FOR AN INFANT SCHOOL.

(TO COVER ONE YEAR.)

Correlated with Various Kindergarten Occupations.

By MISS E. MONA CLAY, *Inspector and Organizing Mistress, Manchester Education Committee*, and MISS G. F. SWEENEY, *Kindergarten Mistress, Barry Education Committee*.

(From *The Practical Teacher*, 1904. Details of working out were added.)

A U T U M N.

SEPTEMBER.

Story.—The Golden Touch; Amelia and the Dwarfs; Soup on a Sausage-peg; The Johnny Cake.

Nature Lesson.—Wheat; Harvest Flowers; Harvest Mouse; Bread-making.

Kindergarten Game.—We are the Reapers We ; The Mill by the Rivulet.
Clay Modelling.—Ear of Wheat ; Poppy Head ; Mouse ; Loaf of Bread.
Brush Painting.—Ear of Wheat ; Corncockle ; Mouse's Nest ; Loaf of Bread.
Paper Cutting.—Sickle ; Flower Basket ; Mouse ; Miller's Cap.
Drawing.—Barn ; Poppy ; Mouse and Nest ; Windmill.
Stick Laying.—Gate ; Flower Vase ; Corn Stack ; Bread Pan.
Crayon Work.—Ear of Wheat ; Poppy ; Mouse ; Loaf of Bread.
Building, Gift IV.—Barn ; Field ; Memory Work ; Oven.

OCTOBER.

Story.—The Plum's Story ; The Sleeping Apple ; Wait and See ; Story of the Year (Autumn).
Nature Lesson.—The Plum ; The Apple ; Hips and Haws ; Acorns.
Kindergarten Game.—Autumn Game ; Equal Treading.
Clay Modelling.—Plum ; Apple ; Hips ; Acorn in Cup.
Brush Painting.—Spray of Plums ; Apple and Leaf ; Sprays of Hips and Haws ; Spray of Acorns.
Paper Cutting.—Plum and Leaf ; Ladder ; Rose Leaf ; Oak Leaf.
Drawing.—Spray of Plums ; Apple on Spray ; Hips and Haws ; Acorn.
Stick Laying.—Jam Pot ; Ladder ; Basket ; Oak Tree.
Crayon Work.—Plum and Leaf ; Basket of Apples ; Hips and Leaves on Spray ; Acorns on Spray.
Building, Gift IV.—Wall ; Steps ; Basket ; Memory Work.

WINTER.

NOVEMBER.

Story.—The Thrifty Squirrels ; Brer Rabbit ; Selection from Black Beauty ; Vulcan the Mighty Smith.
Nature Lesson.—The Squirrel ; The Rabbit ; The Horse ; The Blacksmith.
Kindergarten Game.—Within the Wood are many Trees ; The Blacksmith.
Clay Modelling.—Acorn (memory) ; Carrot ; Horse Shoe ; Anvil.
Brush Painting.—Design with Acorns ; Rabbits in Field ; Design with Corn ; Horse Shoe.
Paper Cutting.—The Squirrel ; Carrot ; Horse Shoe ; Hammer.
Drawing.—The Squirrel ; The Rabbit ; Stable ; Bellows.
Stick Laying.—Railings round Wood ; Rabbit Hutch ; Manger ; Anvil.
Crayon Work.—The Squirrel ; Rabbit with Carrot ; Horse ; Blacksmith.
Building, Gift IV.—Free Building ; Rabbit Hutch ; Stable ; Fireplace.

DECEMBER.

Story.—Goody Two Shoes ; Story of the Year (Winter) ; Holidays.
Nature Lesson.—The Cobbler ; The Postman ; Holly and Mistletoe.
Kindergarten Game.—The Cobbler ; The Postman ; Ring Games.
Clay Modelling.—Shoe ; Pillar Box ; Mistletoe.
Brush Painting.—Original Design ; Letter Bag ; Holly.
Paper Cutting.—Awl ; Pillar Box ; Christmas Stocking.
Drawing.—Boot ; Postman's Cap ; Mistletoe.
Stick Laying.—Bench ; Letter ; House.
Crayon Work.—Boot ; Pillar Box ; Holly.
Building, Gift IV.—Bench ; Post-Office ; Church.

JANUARY.

- Story*.—Holidays ; The Birds' Christmas ; Little Matchseller ; The Miner.
Nature Lesson.—The Robin ; Ice and Snow ; Coal.
Kindergarten Game.—Little Jack Frost ; The Miner.
Clay Modelling.—Nest and Eggs ; Snow Shovel ; Coal Bucket.
Brush Painting.—Branch of Tree ; House with Snow ; Shovel.
Paper Cutting.—The Robin ; Snowflakes ; Pick.
Drawing.—Robin ; Snow Man ; Pick and Shovel.
Stick Laying.—A House ; Simple Stars like Flakes ; Coal Truck.
Crayon Work.—Robin in Snow ; Miner's Lamp.
Building, Gift IV.—House with Window Sill ; Pond ; Shaft.

S P R I N G.

FEBRUARY.

- Story*.—The Signalman's Son ; The Awakening ; Story of the Year (Spring) ; Clytie.
Nature Lesson.—The Train ; Snowdrops ; Crocuses ; Daffodils.
Kindergarten Game.—"There goes the Train ;" "The Spring has called Us ;" Ring Game.
Clay Modelling.—Engine ; Bulb ; Flower Pot ; Daffodil and Bulb.
Brush Painting.—Flags ; Snowdrops ; Crocus on Bulb ; Daffodils.
Paper Cutting.—Signal ; Bulb ; Crocus ; Leaves in Green Paper.
Drawing.—Train ; Flower Pot with Snowdrops ; Crocus in Pot ; Daffodil.
Stick Laying.—Railway Shed ; Flower Pot ; Garden Gate ; Water Can.
Crayon Work.—Lantern ; Snowdrop ; Crocuses ; Daffodils.
Building, Gift IV.—Platform ; Flower Bed ; Garden Walls ; Free Building.

MARCH.

- Story*.—The Meeting of the Winds ; Psyche's Task ; The Cow that lost her Tail ; How a Little Boy got a New Shirt.
Nature Lesson.—Wind ; Seeds and Rain ; The Cow ; Sheep and Lamb.
Kindergarten Game.—The Weathercock ; Raindrops ; Come, come to the Farmyard.
Clay Modelling.—Windmill ; Water Butt ; Milk Pail ; Trough.
Brush Painting.—Trees ; Umbrella ; Clover ; Turnips.
Paper Cutting.—Sails of Windmill ; Spade ; Clover Leaf ; Sheep.
Drawing.—Clothes on Line ; Wheelbarrow ; Milking Stool ; Turnip.
Stick Laying.—Kite ; Window Box ; Cow Shed ; Hurdles.
Crayon Work.—Boat sailing on the Sea ; Umbrella ; Cow ; Sheep.
Building, Gift IV.—Windmill ; A Well ; Shed ; Sheepfold.

APRIL.

- Story*.—Story of Speckle ; The Ugly Duckling ; Meek and Lowly ; Little Ida's Flowers.
Nature Lesson.—Hen and Chickens ; Duck and Ducklings ; The Primrose ; The Bluebell.
Kindergarten Game.—Hen and Chicks ; Nosegay of Flowers.
Clay Modelling.—Hen Egg ; Water Dish ; Primrose Leaf ; A Bell.
Brush Painting.—Chicken ; Pond with Reeds ; Primroses ; Bluebells.
Paper Cutting.—Hen ; Duck ; Primrose Leaf ; Basket.

Drawing.—Fowl House ; Duck ; Vase ; Bluebell Plant.

Stick Laying.—Speckle's Box of Eggs ; Fowl House ; Watering Can ; Sofa (in story).

Crayon Work.—Hen and Chickens ; Ducks on Pond ; Basket of Primroses ; Bluebells.

Building, Gift IV.—Fowl House ; Fowl House (memory) ; Pathway ; Bed (in story).

S U M M E R.

MAY.

Story.—The Stickleback ; The Snail and the Rose Tree ; The Frog Prince ; The Rose Elf.

Nature Lesson.—The Stickleback ; The Snail ; The Frog ; Wild Rose.

Kindergarten Game.—The Fishes ; Thus the timid, shining Snail ; The Little Frogs ; Ring Game.

Clay Modelling.—Fish Bowl ; Snail ; Stages of Development ; Flower Basket.

Brush Painting.—Fish ; Snail on Leaf ; Tadpoles in Pond ; Wild Rose.

Paper Cutting.—Fish ; Cabbage Leaf ; Frog ; Rose Leaf.

Drawing.—Stickleback's Nest ; Snail on Cabbage ; Life History of Frog ; Wild Rose.

Stick Laying.—Minnow Net ; Garden Wall ; Railings round Pond ; Window in Summer House.

Crayon Work.—Fishes in Water ; Snail on Leaf ; Frog ; Spray of Roses.

Building, Gift IV.—Octagonal Pond ; Memory ; Pond with Island for Frogs ; Summer House.

JUNE.

Story.—Five out of one Shell ; Story of the Year (Summer) ; Story of the Year (Summer) ; Story of the Year (Summer).

Nature Lesson.—Sweet Pea ; Cherries ; Strawberries ; Currants.

Kindergarten Game.—Revision of Games ; Ring Game.

Clay Modelling.—Open Pea Pod ; Cherries ; Strawberry ; Currants.

Brush Painting.—Sweet Pea ; Cherries on Spray ; Strawberries ; Spray of Currants.

Paper Cutting.—Pea Pods ; Cherries ; Strawberry Leaf ; Currant Leaf.

Drawing.—Open Pod ; Parts of Cherry ; Strawberries ; Spray of Currants.

Stick Laying.—Pod ; Tree ; Jam Pot ; Currant Leaf.

Crayon Work.—Sweet Pea and Pod ; Cherries ; Strawberry on Plant ; Currants on Spray.

Building, Gift IV.—House ; Free Building ; Strawberry Bed ; Memory.

JULY.

Story.—A Lesson on Faith ; A Narrow Escape ; Amelia and the Dwarfs ; The Daisy.

Nature Lesson.—The Butterfly ; The Bee ; The Hayfield ; Moon Daisy.

Kindergarten Game.—The Caterpillar ; Hum, hum, hum ; The Haymakers.

Clay Modelling.—Caterpillar ; Beehive ; A Hayfork ; Daisy.

Brush Painting.—Butterflies ; The Bee ; Grasses ; Daisies.

Paper Cutting.—Butterfly ; Bee ; Haycocks ; Flower Pot.

Drawing.—Caterpillar on Branch ; Beehive ; Haystack and Ladder ; Moon Daisy.

Stick Laying.—Butterfly Net ; Stool for Hive ; Ladder ; Cage (in story).
Crayon Work.—Butterfly on Flower ; Bee on Flower ; Haycock ; Daisies.
Building, Gift IV.—Doorway for Chrysalis ; Beehive ; Field ; Hayfield (memory).

SCHEME OF WORK FOR INFANTS.

Based on the Seasons.

(From the "Practical Teacher," 1901.)

[Stories, recitations, songs, and games are given along with this scheme, in each division bearing upon the nature lesson, some of them original, others selected from sources old and new.]

SPRING.

NATURE OR OBJECT LESSON.	KINDERGARTEN OCCUPATION.
A Snowdrop Plant. The Coming of Spring. How Plants live and grow. A Primrose Plant. Kinds of Roots, Stems, and Leaves. The Daffodil, the Bluebell, the Violet, the Cowslip. Germination of Seeds. Kinds of Flowers. Parts of a Flower.	<i>Brushwork</i> .—Snowdrop, Daffodil, Primrose, Crocus, Bluebell, Violet, and Cowslip plants. <i>Clay Modelling</i> .—Bulbs, Carrots, Turnips, Onions, Radishes. <i>Drawing</i> .—Leaves of various Plants. A perfect Plant, showing parts. A Flower in section, and parts separate. Drawings of Flowers given for brushwork. <i>Work in the Garden</i> .—The children plant seeds in their garden, and watch how they grow. <i>Paper Cutting</i> .—Plants drawn by children from nature cut out and mounted on brown paper (Standard I.).
Woods in Spring. A Tree and its Parts. A Bird's Nest. The Uses of Trees. The Woodman. The Carpenter. Structure of a Bird. Classes of Birds. Birds' Beaks. Birds' Feet. The Cuckoo. The Skylark. Migratory Birds. The Swallow and the Martin.	<i>Brushwork</i> .—Leaves of Trees, showing varieties of shape, margin, venation, etc. <i>Groupwork</i> .—A Wood with wild flowers growing, twigs and buds, catkins of various kinds. <i>Clay Modelling</i> .—A Bird's Nest and Eggs. The Woodman's, Carpenter's, and Gardener's Tools. <i>Drawing</i> .—Beaks and Feet of Birds. An Axe, a Hammer, a Wagon, a Foot-rule, a Ship. Drawings of Leaves, Catkins, etc., given for brushwork. <i>Paper Cutting and Mounting</i> .—Leaves of Trees drawn from nature, and cut out and mounted (Standard I.). <i>Work in the Garden</i> .—Weeding and watering.

SUMMER.

NATURE OR OBJECT LESSON.	KINDERGARTEN OCCUPATION.
Summer Time. The Farmyard. The Life of the Farmer. The Farmer's Tools. The Animals of a Farm (separate lessons). Sheep Shearing. Haymaking.	<i>Brushwork.</i> —Pigeons and Pigeon-house. <i>Clay Modelling.</i> —Pig-trough, Hen-house, Reaping-hook, Scythe. <i>Drawing.</i> —A Wagon, a Plough, a Harrow. <i>Paper Folding.</i> —The Farmhouse, Barns, and Stable. <i>Stick Laying.</i> —Dog Kennel, Cowshed, Pigsty. <i>Gifts III. and IV.</i> —A Field, a Gate, a Well. <i>Paper Cutting and Mounting.</i> —A Pigeon- house — drawn, coloured, cut out, and mounted.
Structure of Insects. The Bee. The Housefly. The Butterfly. Other Insects.	<i>Brushwork.</i> — Bees, Butterflies, Hexagonal Cells. <i>Clay Modelling.</i> —A Caterpillar on a leaf. A Chrysalis. <i>Drawing.</i> —Parts of an Insect; enlarged head, chest, abdomen, legs, compound eyes, tongue. A Honey Jar. <i>Paper Cutting.</i> —A Beehive. A Honey Jar (mounted). <i>Paper Folding.</i> —A Hexagon.
Summer Fruits. A Basket of Vegetables. Carrots and Turnips. A Potato. Peas and Beans. Our Garden and its Flowers (separate lessons). The Slug, Snail, and Worm in the garden.	<i>Brushwork.</i> —Wild Rose, Daisy, Poppy, Sun- flower, Buttercup, etc. <i>Clay Modelling.</i> —A Potato, Carrot, Turnip, etc. Peas in a Pod. <i>Drawing.</i> —The Gardener's Tools. A Snail Shell. <i>Sand Modelling.</i> —The Garden, with its beds and paths. <i>Work in the Garden.</i> —Weeding and watering and tying up flowers.
The Sea. The Treasures of the Sea. A Fish. Kinds of Fish. Methods of Fishing. Sponge. The Diver.	<i>Brushwork.</i> —Fish in the Sea. A Seascape. <i>Outline Brushwork.</i> —Shells, Sponge, Coral, Starfish. <i>Clay Modelling.</i> —A Boat, an Oar, a Fish, various Shells. <i>Drawing.</i> —A Steamer, a Spade, a Pail, a Fishing Net, a Crab Pot, a Rod and Line, a Life-belt. <i>Paper Cutting and Mounting.</i> —A Ship, a Star- fish, a Lighthouse.

AUTUMN.

NATURE OR OBJECT LESSON.	KINDERGARTEN OCCUPATION.
<p>The Cornfield. Cutting the Corn. How Wheat becomes Flour. A Windmill and a Water-mill. The Baker. How Bread is made. The Dairy. How Butter is made.</p>	<p><i>Brushwork.</i>—Wheat, Oats, Barley, Moon-daisies. <i>Clay Modelling.</i>—A Rolling-pin, a Loaf, Biscuits, Pats of Butter, a Peel, a Skimmer. <i>Drawing.</i>—A Sickle, a Churn, a Windmill, a Mill-wheel, Pans for Cream. <i>Paper Folding.</i>—The Baker's Cap and Apron, the Bakehouse. <i>Gifts III. and IV.</i>—Oven, Kneading-trough. <i>Paper Cutting and Mounting.</i>—A Windmill.</p>
<p>Autumn Fruits. Apples and Pears. Stone Fruits. Nuts and Acorns. Autumn Berries. The Squirrel. Mushrooms. Poisonous Berries.</p>	<p><i>Brushwork.</i>—Hips, Haws, Mountain-ash Sprays, Blackberries, Squirrels. <i>Clay Modelling.</i>—Nuts, Acorns, Mushrooms, Apples, Pears. <i>Drawing.</i>—Oak and Chestnut Leaves, Clusters of Nuts, Mushrooms, Basket for Nuts. <i>Paper Cutting and Mounting.</i>—An Apple and Leaf, a Pear and Leaf. <i>Stick Laying.</i>—Trees, Gates.</p>
<p>Signs of Autumn. The Fall of the Leaf and its Work. Migration. Migratory Birds. The Sun and its Work. The Wind and its Work. The Rain and its Work. The Frost and its Work. How Plants store up Food. Seeds. Dispersion of Seeds.</p>	<p><i>Brushwork.</i>—Oak and Chestnut Leaves, Swallows (outline), a Seascape showing flight of Swallows, a Rainbow. <i>Clay Modelling.</i>—Swallow's Nest, Poppy Capsules and other Seed-vessels. <i>Drawing.</i>—Seed-vessels, Roots and Stems that are food preserves. <i>Paper Cutting and Mounting.</i>—A Swallow, Autumn Leaves. [Special nature walks to gather leaves, to preserve them for nature work during winter. Mount them on cards after pressing them.]</p>

WINTER.

<p>Winter Time. Snow and Ice. Snow-clad Lands. The Laplander. Evergreen Trees. A Winter Walk. The Robin. The Sparrow. The Blackbird. Animals that Sleep in Christmas. [Winter.</p>	<p><i>Brushwork.</i>—Spray of Yew and Fir. Holly, Ivy, Laurel, Mistletoe Leaves. A Sledge, Canoe, and Snowshoe in outline work. <i>Drawing.</i>—A Robin, a Sparrow, a Blackbird, a Christmas Stocking, Oranges, Nuts, Christmas Toys. <i>Clay Modelling.</i>—An Orange, a Brazil Nut, a Walnut, a Chestnut. The Laplander's Canoe, Sledge, and Snowshoes. <i>Paper Cutting and Mounting.</i>—A Robin, a Sparrow, an Ivy Leaf.</p>
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NATURE OR OBJECT LESSON.	KINDERGARTEN OCCUPATION.
Clothing. Cotton. The Weaver. Wool. The Sheep. Silk. The Silkworm. Leather. The Shoemaker. A Straw Hat.	<i>Brushwork.</i> —The Cotton Plant, the Flax Plant, a Silkworm, a Mulberry Leaf. <i>Clay Modelling.</i> —A Straw Hat, a Cap, a Shoe, an Awl, a Last, the Tub for soaking the leather, the Hammer. <i>Drawing.</i> —A Stocking, a Boot, a Muff, a Glove. <i>Mat Weaving.</i> —Simple Patterns to imitate the weaver. <i>Simple Straw Plaiting.</i> —Imitation Work.
Food. The Tea Plant. The Coffee Tree. The Cocoa Tree. Rice. An Egg and Fowls. Milk and the Cow. Vegetable Foods. Animal Foods.	<i>Brushwork.</i> —The Tea Plant, a Cocoa Pod, Cocoa and Coffee Beans, etc. <i>Clay Modelling.</i> —An Egg, a Fowl's House, a Milk Pail, a Milking Stool, various Vegetables. <i>Drawing.</i> —A Teapot, a Milk Jug, a Sugar Basin, a Fowl's Head, a Cream Pan, a Ladle. <i>Paper Cutting and Mounting.</i> —A Fowl's Egg.

A SCHEME OF WORK FOR INFANT DEPARTMENT.

Approved by the Board of Education.

Reading, with its kindred subject **Word-making.**

BABIES.

- a. To be able to sound at sight the consonant letters, small and capital.
- b. To know the *long* sound of the vowels, and the *short* sound when preceded by a consonant.
- c. To be able to sound a word of two letters.
- d. To know the preceding from reading sheet.

CLASS I. (aged four).

- a. To know words of two letters, the consonant coming either *before* or *after* the vowel, and the vowel being either *short* or *long*.
- b. To know words of four letters where the word can be made into two parts, each of which is a word—for example, *up-on*, *in-to*, etc.
- c. To know words of three letters of regular formation—for example, *bat*, *mop*, *art*, etc.
- d. To be able to change the initial, final, or middle letter of such words as in *c*—for example, *mop* into *sop*, or *map* into *mob*, etc.
- e. To read with expression from Nelson's Royal King Primers I. and II.

CLASS II. (aged five).

- a. To know the sound of two consonants coming together, and to be able to use them preceding a vowel.

- b.* To know the irregular words from Nelson's Royal Infant Reader I.
- c.* To know words in which double consonants and double vowels are used.
- d.* To know the alteration of vowel value when *e* (mute) is put at the end of such words as *măt* (*māte*), *păst* (*pāste*), etc.
- e.* To read with expression from Nelson's Royal King Infant Reader I.

CLASS III. (aged six).

- a.* To know words ending with a double consonant.
- b.* To know such words as *to*, *too*, and *two*; *ale* and *hail*; *no* and *know*, etc. To show by sentences that the meanings of such are understood.
- c.* To know that *g* is always followed by *u*.
- d.* To know that *ph* is sounded as *f*.
- e.* To read with expression from Nelson's Royal Infant Reader II.

CLASS IV. (Standard children).

- a.* To know the common word-endings, and to be able to use them with given words.
- b.* To know silent *-b* at end of words.
- c.* To know that the letter *-y* is used for the sound of *i* at the end of a word.
- d.* To be able to build up and pronounce any regular syllable, whether used singly or as helping to make a long word.
- e.* To read with expression from Nelson's Royal King Infant Reader II. (as in previous class), and also from Nelson's Royal Prince Reader, Book I.

Writing, with Composition for Standard children.

BABIES.

- a.* Pencil drill.
- b.* To write from blackboard script copy in sand with pencil such words as are not taken above or below the lines.

CLASS I.

- a.* To write on paper, from script blackboard, copy words of three letters, all three being within the lines.
- b.* To write easy combinations of two letters, one of which lies above or below the lines.
- c.* To write easy combinations from printed blackboard copy.
- d.* To write easy words from dictation.

CLASS II.

- a.* To write on paper, from script and printed blackboard copy (large hand only), words which are used in reading and word-making lessons.
- b.* To write the capital letters on Sheet No. 5 of Nelson's Royal Writing Wall Sheets.
- c.* To write from dictation easy lesson words.

CLASS III.

- a.* To write on paper, from script and printed blackboard copy (large hand only), words which are used in reading and word-making lessons.
- b.* To write, in addition to *c* of Class II., the capital letters on Sheet No. 6 of Nelson's Royal Writing Wall Sheets.
- c.* To write easy words from dictation. (Capital letters to be used.)

CLASS IV.

a. To copy from printed blackboard copy, reading sheet, or reading book a simple sentence, using small and capital letters. (Large hand and half-large hand.)

b. To show writing in Nelson's Royal Copy Book, No. 6.

c. To write an easy sentence from dictation.

d. To write easy sentences from memory, and as an exercise in composition.

Arithmetic, with Mental Arithmetic.

BABIES.

a. To be able to place number pictures up to and including *six*.

b. To be able to decompose numbers up to and including *six*.

c. To count up to *ten* and back to *one*.

d. To count one forwards and one backwards.

e. To be able to write the figures 1-6 in sand.

CLASS I.

a. Number pictures as in babies' class up to and including *nine*.

b. Decomposition of numbers up to and including *nine*.

c. To count by *ones* and *twos* up to and including *twelve*.

d. To count to *twenty* forwards and backwards.

e. To be able to write all the figures on paper.

CLASS II.

a. Decomposition of numbers up to and including *twelve*.

b. To be able to count by *ones* and *twos* up to and including *twenty*, and to *forty* forwards and backwards.

c. To know the signs $+$, $-$, \times , and \div .

d. To be able to set down and add numbers up to *four*.

CLASS III.

a. Decomposition of numbers up to and including *twenty*.

b. To be able to count forwards and backwards up to and including *fifty*.

c. To count by *ones*, *twos*, and *fives* up to and including *thirty*.

d. To learn the pence value of a shilling, and do little exercises in spending.

e. To be able to set down and add numbers of units and tens, but without "carrying" from the units.

CLASS IV.

a. To learn (as in Class III.) the decomposition of numbers up to and including *twenty*.

b. To be able to count up to and including *ninety-nine* forwards and backwards.

c. To count up to a *hundred* in *twos*, *fives*, and *tens*.

d. To know the shillings value of a pound (£), and to work spending exercises.

e. Written exercises in the four rules.

f. Tables up to six times nine.

Varied Occupations.

BABIES.

- a.* Fraying. *b.* Bead-threading. *c.* Moist string work in trays.

CLASS I.

- a.* House-building with bricks. *b.* Picture-cutting. *c.* Tile-laying.

CLASS II.

- a.* Tile-laying and mosaic work. *b.* Drawing on plain paper with templates.

CLASS III.

- a.* Drawing. *b.* Brushwork.

CLASS IV.

- a.* Drawing. *b.* Brushwork. *c.* Clay modelling.

Object Teaching and Conversational Lessons.

BABIES.

- a.* *The home:* House, rooms, doors, windows, etc.
b. *Things in the home:* Table, chair, bed, cooking things, pictures, etc.
 The home pet—the dog, cat, etc.
c. *The homes of animals:* Especially the fox, the rabbit, a bird, fishes.
d. *Our clothing:* Winter and summer clothing, boots.

CLASSES I. AND II. (Grouped).

- a.* *The school:* General talk on school and schoolroom, bringing in size as compared with size of home, as well as difference of furniture, etc.
b. *Things in the school:* Slate, lead-pencil, a book.
c. *Talks on the seasons:* *Spring*—The opening bud and foliage, the spring flowers, “Nature waking from sleep.” *Summer*—Sunshine and gay flowers, plants and flowers. *Autumn*—Fruits. *Winter*—“Nature sleeping.”

CLASS III.

- a.* *Insect life:* General talk—not to injure or be afraid of insects such as spiders, beetles; to love and not to injure the butterfly. Special—The ant, the butterfly, the bee; the wasp and the bee compared.
b. *Bird life:* General talk on build of body, feathers, etc.; feet and beaks of birds. Special—The canary, the sparrow, the hen.
c. *Animal life:* General talk on coverings of animals. Special—The dog and the cat, the cow, the horse.
d. *Plant life:* General talk on the nature of a plant. Special—The daisy compared with the sunflower, the buttercup, and mayflower.

CLASS IV.

- a.* *Leading to geography:* What can be learned from rain falling on house-tops, roads, and footpaths; spouts and drains; a spring, a river, the sea. A walk down the lane—*Observation* of the stones, the grass, the hedgerows, the ditch, the stream, and the bridge. The stones in the lane compared with the pebbles in the stream. The growth on the hedgerows (blackberries, etc.) and trees (crabs, nuts, etc.). The floating and sunken objects in the stream. The mud, twigs, leaves, etc., in the ditch. A walk across

a field—*Observation of the flowers* (daisy, buttercup, etc.), the pond, the fallen tree, and the falling of the leaves. The plough and the ploughed field. General talk on soils. A forest of trees. Coal. Mariner's compass—N., S., E., W. The Pole Star.

b. General talk on foods: Animal foods—from cow (calf), sheep (lamb), and the pig. Food from plants—wheat, oats, sugar, cocoa, and tea.

c. General talk on clothing: Wool and woollen garments, flax and cotton, garments made from flax and cotton.

d. Leading to general information: A letter, a book, a newspaper, a lead-pencil. How travelling is accomplished—by horse, bicycle, tram, train, and ship. Descriptive journeys (conversational).

Recitation (Correlated with Nature and Conversational Lessons).

BABIES.

Nursery rhymes.—“My Shadow” (Stevenson).—“Good Night and Good Morning” (Lord Houghton).—“Babies” (*Games, Songs, and Recitations*. E. J. Arnold).

CLASSES I. AND II.

“The Cuckoo” (Wordsworth).—“To Daffodils” (Herrick).—“Violets” (Herrick).—“Blossoms” (Herrick).—“The Rabbit” (*Games, Songs, etc.* E. J. Arnold).

CLASS III.

“The Spider and his Wife” (*Little Recitations*. Chambers).—“Little by Little” (*Little Recitations*. Chambers).

CLASS IV.

“Jack Frost.”—“The Brook” (Tennyson).—“The Rain” (J. Hornby).

Singing.

BABIES.

Voice exercise: **d m s m s m d**.—Hand signs: **d m s**.—Songs: nursery rhymes.

CLASSES I. AND II. (Grouped).

Modulator: **d m s d¹** (key C).—Songs: four selected.

CLASSES III. AND IV. (Grouped).

Modulator: **d m r s t d¹**.—Ear exercises: to imitate three notes in step-wise succession.—Songs: six selected.

Needlework (Girls).

BABIES.

- a.* Needlework drill (needle, thimble, and position).
- b.* Knitting drill (needle and first stitch).

CLASSES I. AND II.

- a.* Needlework and knitting drills.
- b.* Hemming and knitting.
- c.* Casting on.
- d.* Hemming small handkerchief; knitting a wrist cuff.

CLASS III.

- a. Continuation of drills as in Classes I. and II.
- b. Hemming and knitting.
- c. Casting on plain knitting ; plain knitted strips.
- d. Rug-making.

CLASS IV.

- a. Knitting ; casting on and taking off.
 - b. Plain knitted strips for cushion covers, etc.
 - c. Hemming, showing fastening on and off.
 - d. Seaming.
 - e. Woollen work—rugs, balls, etc.
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SCHEME OF DRAWING AND MANUAL OCCUPATIONS.

Adopted for Infants by the School Board of Glasgow.

Free Drawing.—1. Preliminary exercises in drawing on the blackboard or millboard—the Circle, Ellipse, Loop, and Right Line.

2. Simple natural and familiar objects based upon these forms. Easy pattern work.

Brush Drawing.—1. Simple brush impression strokes drawn in all directions, with adaptation of them to pattern work on squared paper.

2. Simple leaves and other natural forms drawn with the brush direct from nature.

Clay Modelling.—1. Preliminary exercises in shaping the Sphere, Oval, and Ovoid. Adapting these forms, modified by finger and thumb impressions, to produce simple decorative borders and rosettes.

2. Modelling very simple natural forms on a slab.

Paperwork and Cardboard Modelling.—Paper folding as a kindergarten occupation.

NOTE.—These schemes are only intended to suggest the broad lines along which the various branches may be developed, and to show how drawing and manual occupations may be closely correlated with each other and with nature study. They will admit of great variety in the practical working out, and teachers are perfectly free to exercise their own initiative in the matter, keeping in view the special circumstances and needs of the school in which the work is to be done. As a rule, one occupation in connection with the drawing will be found sufficient.

APPENDIX II.

SPECIMEN TIME-TABLES FOR INFANTS.

A TYPICAL TIME-TABLE FOR INFANTS.

By an Inspector of Schools.

9—9.25.....	Hymn, Religious Instruction.
9.25—9.35.....	Singing.
9.40—10.....	Object, Nature, or Conversation Lesson.
10—10.20.....	Writing.
10.20—10.35.....	Recreation.
10.35—10.55.....	Arithmetic.
10.55—11.15.....	Drill and Recitation.
11.15—11.35.....	Reading.
11.35—11.55.....	Kindergarten Game or Occupation.
11.55—12.....	Dismissal.
2—2.20.....	Arithmetic.
2.25—2.55.....	Drawing, Needlework.
2.55—3.5.....	Recreation.
3.5—3.25.....	Reading.
3.25—3.40.....	Singing, Drill, Recitation.
3.40—4.5.....	Occupations.

TIME-TABLE FOR THE BABIES.

Suggested by an Inspector of Schools.

9—9.15.....	Hymn, Prayer, Bible Lesson.
9.15—9.30.....	Singing and Drill.
9.30—9.44.....	Sand Trays for making Letters.
9.44—10.....	Conversational Lesson.
10—10.15.....	Recreation.
10.15—10.30.....	Bead Threading (Number incidental).
10.30—10.45.....	Marching and Singing.
10.45—11.5.....	Varied Occupation, Wool Sorting (Colour incidental).
11.5—11.20.....	Recreation.
11.20—11.35.....	Letters in Sand.
11.35—11.50.....	Conversation.
Afternoon.....	More Recreative Course, Games, Occupations, Short Conversational Lessons.

WEEK'S SUMMARY OF AN INFANT SCHOOL TIME-TABLE.

By an Inspector of Schools.

Singing (1)	I	hour	10	minutes.
Drill (2)	I	„	15	„
Object Lessons (3)	I	„	40	„
Form and Colour (4)	0	„	20	„
Recitation (5)	0	„	45	„
Reading (6)	3	„	20	„
Number (6)	3	„	20	„
Writing (7)	2	„	40	„
Varied Occupations (8)	3	„	0	„
Games (9)	1	„	0	„
Needlework } (10)	I	„	30	„
Drawing }				

Explanations :—(1) Ten minutes daily, and one lesson of twenty minutes. (2) One lesson daily, fifteen minutes. (3) One daily lesson of twenty minutes. (4) One lesson weekly. (5) Three lessons of fifteen minutes each. (6) Ten lessons of twenty minutes each. (7) Eight lessons of twenty minutes each. (8) Six lessons of half an hour each. (9) Three lessons of twenty minutes, or two of half an hour each. (10) Three lessons, each half an hour.

Arrange the needlework, drawing, varied occupations, and games, as a rule, in the afternoons. In the mornings there should be an object lesson, and a lesson in each of the elementary subjects.

A LARGE INFANT SCHOOL, LONDON.

Higher Infant Classes.

9.20—9.40	Scripture (Texts and Hymns).
10—10.30	Reading, Word Building.
10.30—10.45	Recreation.
10.45—11.20	Number, Counting, or Arithmetic.
11.20—11.55	Writing, Free-arm Drawing, or Singing.
2—2.25	Repetition.
2.25—3	Object Lesson (Geography, Drawing).
3—3.15	Recreation.
3.15—4.20	Singing, Repetition, Drawing, or Kindergarten Games and Stories.

Babies' Room.

9—9.20	Prayers, Free Drawing.
9.20—9.40	Old Testament (Texts, Hymns).
9.40—9.55	Physical Exercises.
9.55—10	Free Drawing.
10—10.25	Free-arm Drawing, Object and Free-play Drawing.
10.25—10.45	Recreation or Free Play.
10.45—10.55	Games, Singing, or Recitation.
10.55—11.15	Varied Occupations.
11.15—11.25	Games, Singing, or Recitation.
11.25—11.45	Number (Occupations).

- 2—2.30.....Free Drawing and Physical Exercises.
 2.30—2.55.....Object Lesson.
 2.55—3.15.....Recreation or Free Play.
 3.15—3.40.....Occupations.
 3.40—3.50.....Singing, Recitation, Story, or Game.
 3.50—4.10.....Game or Story (Occupations).
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A LONDON INFANT SCHOOL (CAMBERWELL).

Higher Infant Classes.

- 9.10—9.40.....Scripture.
 9.40—10.....Drill.
 10—10.20.....Talk about Object or Picture.
 10.20—10.45.....Reading or Word Building on previous Lesson.
 10.45—11.....Recreation.
 11—11.10.....Mental Arithmetic.
 11.10—11.30.....Slate Arithmetic.
 11.30—11.55.....Writing, bearing on Object Lesson.
 2—2.15.....Tables, etc.
 2.15—2.45.....Reading (Drill, Drawing).
 2.45—3.....Recreation.
 3—3.50.....Drawing, Needlework (Singing, Recreation Lesson).
 3.50—4.....Prayers and Dismissal.
-

A LONDON INFANT SCHOOL.

- 9—10.....Prayers, Religious Instruction.
 10—10.30.....Arithmetic.
 10.30—11.....Reading (Writing, Clay Modelling).
 11—11.10.....Play.
 11.10—11.35.....Kindergarten (Object Lesson, Oral Composition).
 11.35—12.....Singing (Drill).
 2.10—3.10.....Drawing (Needlework, Kindergarten, Games).
 3.10—3.20.....Play.
 3.20—3.50.....Recitation (Reading, Drawing).
 3.50—4.20.....Writing (Tables, Stories).
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A LONDON INFANT SCHOOL (CLAPHAM).

Junior Classes.

- 9.15—9.40.....Scripture, Scripture Repetition, Hymns.
 9.40—10.....Drill (Registers).
 10—10.30.....Arithmetic.
 10.30—10.40.....Recreation.
 10.40—11.20.....Reading (Object Lesson, Writing).
 11.20—11.55.....Object Lesson (Reading, Writing, Singing).
 2.15—3.....Writing and Spelling (Drawing, Needlework).
 3—3.20.....Recreation.
 3.20—3.50.....Reading (Writing).
 3.50—4.20.....Recitation (Occupations).

A LONDON SUBURBAN INFANT SCHOOL.

Senior Class.

- 9—9.30.....Assembly, Prayers, Scripture Stories.
 9.30—10.....Singing (Recitation).
 10—10.35.....Reading (Arithmetic).
 10.35—10.50.....Recess.
 10.50—11.20.....Arithmetic (Reading).
 11.20—11.55.....Writing (Object Lessons, Physical Exercises).
 2—2.10.....Number Practice.
 2.15—3.....Drawing and Needlework (Brushwork).
 3—3.30.....Recitation (Physical Exercises, Story).
 3.30—3.40.....Recess.
 3.40—4.10.....Clay Modelling (Writing).
 4.10—4.25.....Clay Modelling (Singing, Conversation).
-

A LONDON INFANT SCHOOL.

Babies and Junior Classes.

- 9—9.30.....Assembly, Prayers, Religious and Moral Instruction.
 9.35—10.10.....Number.
 10.10—10.40.....Word Practice and Reading.
 10.40—10.55.....Recreation.
 10.55—11.25.....Writing (Object Teaching).
 11.25—11.55.....Recitation (Singing).
 2.5—2.20.....Word Practice (Physical Exercises, Musical March).
 2.20—2.25.....Recreation.
 2.25—2.50.....Physical Exercises (Transcription, Stories).
 2.50—3.30.....Kindergarten (Drawing, Needlework).
 3.30—4.....Games and Play.
 4—4.25.....Backward Lessons (Kindergarten, Conversation).
-

A LONDON SUBURBAN INFANT SCHOOL.

Senior Infant Class.

- 9.5—9.30.....Scripture, Hymns.
 9.30—10.....Number.
 10—10.30.....Writing.
 10.30—10.45.....Recreation.
 10.45—11.15.....Object Lesson.
 11.15—11.25.....Singing.
 11.25—11.55.....Reading and Word Building.
 11.55—12.....Drill.
 12—2.....Interval.
 2.5—3.5.....Needlework and Drawing (Kindergarten Work, Singing).
 3.5—3.15.....Recreation.
 3.15—3.45.....Reading (Writing, Singing, Kindergarten).
 3.45—4.10.....Drill (Recitation, Object Lesson).

A LONDON INFANT SCHOOL (SOUTHWARK).

Senior Classes.

9.5—9.45.....Prayers, Scripture Repetition, Scripture Lesson.
9.45—9.55.....Voice Production (Drill).
10—10.30.....Arithmetic (Reading).
10.30—11.....Reading (Arithmetic).
11—11.10.....Recreation.
11.10—11.35.....Nature Lesson, Sentence Making.
11.35—12.....Drill (Singing, Recitation).

1.50—2.15.....Reading (Drawing, Needlework).
2.15—2.45.....Writing (Drawing, Needlework).
2.45—2.55.....Recreation.
2.55—3.20.....Recitation (Writing, Story).
3.20—3.45.....Occupations, Games.

A SCHOOL IN THE BLACK COUNTRY.

9—9.45.....Prayers, Scripture.
9.45—10.....Recitation (Singing).
10—10.30.....Arithmetic.
10.30—10.45.....Play.
10.45—11.20.....Reading (Writing).
11.20—11.55.....Writing (Reading).

2—2.15.....Tables.
2.20—3.....Object Lesson (Drawing and Needlework,
Kindergarten, Drill).
3—3.30.....Brush Drawing (Drawing and Needlework,
Kindergarten, Object Lesson).

3.30—3.40.....Play.
3.40—3.55.....Reading (Recitation).
3.55—4.20.....Conversation (Singing, Drill).

AN INFANT DEPARTMENT IN WORCESTERSHIRE.

9—9.45.....Prayers, Hymn, Scripture.
10—10.30.....Arithmetic.
10.30—10.45.....Colour and Form (Moral Instruction).
10.45—11.....Recreation.
11—11.30.....Reading (Writing).
11.30—12.....Writing (Reading).

2.15—2.30.....Repetition of Poetry (Tables).
2.30—3.25.....Drawing and Needlework (Reading, Kindergarten).
3.25—3.35.....Recreation.
3.35—3.55.....Nature and Object Teaching (Singing).
3.55—4.5.....Word Building.

AN EDINBURGH INFANT SCHOOL.

Work of the Senior Infants' Class.

- 9.30—9.55.....Bible.
 - 10—10.55.....Reading and Writing.
 - 10.55—11.5.....Interval.
 - 11.5—11.55.....Number, Sewing and Knitting.
 - 11.55—12.55....Interval.
 - 1—1.55.....Singing (Kindergarten or Blackboard Drawing).
 - 1.55—2.5.....Interval.
 - 2.5—2.55.....Recitation and Object Lesson (Reading and Writing).
-

AN EDINBURGH INFANT SCHOOL.

Specimen Day of one Class.

- 9.15—9.50.....Assemble, Opening Hymn and Prayer,
Religious Instruction.
 - 10—10.15.....Reading.
 - 10.15—10.30.....Drill.
 - 10.30—10.50.....Playground.
 - 10.50—11.20.....Arithmetic.
 - 11.20—11.45.....Writing.
 - 11.45—12.10.....Reading.
 - 12.10—1.40.....Interval.
 - 1.45—2.30.....Kindergarten Exercises.
 - 2.30—3.....Object Lesson.
 - 3—3.30.....Singing Lesson.
-

AN ABERDEEN INFANT SCHOOL.

Work of Class II.—Average age, 6 years.

- 9—9.50.....Opening Hymn, Prayer, and Bible Lesson.
- 10—10.20.....Nature Lesson or Object Lesson.
- 10.20—10.40...Reading (*a*) sentences based on Nature Study, (*b*) from book.
- 10.40—10.50...Singing.
- 10.50—11.....Playground.
- 11—11.20.....Writing from one of Reading Lessons.
- 11.20—11.40...Number Lesson (Conversation or Story).
- 11.40—12.....Expression Lesson (Handwork) illustrating Nature Lesson
(Form and Colour. Singing).
- 12—1.50.....Interval.
- 2—2.20.....Number Lesson and Figures (Free-arm Drawing. Singing).
- 2.20—2.40.....Recitation (Free-arm Drawing. Drill).
- 2.40—3.....Word Building from Reading Book.
- 3—3.10.....Playground.
- 3.10—3.40.....Needlework (girls), Occupation (boys) (Free-arm Drawing.
Games).

TIME-TABLE OF A LARGE INFANT SCHOOL.**Senior Division.**

9—9.30.....	Bible Stories.
9.30—10.....	Nature Lesson or Story.
10—10.30.....	Reading.
10.30—10.45.....	Recreation.
10.45—11.15.....	Writing, Blackboard Drawing.
11.15—11.35.....	Drill, Games.
11.35—12.....	Number, Arithmetic, Singing.
2—2.30.....	Drawing, Needlework.
2.30—3.....	Writing, Singing, Recitation.
3—3.10.....	Recreation.
3.10—3.40.....	Occupations, Blackboard Drawing.
3.40—4.....	Singing, Recitation.

Junior Division.

9—9.30.....	Hymns, Texts.
9.30—9.50.....	Story, Picture or Object or Nature Lesson.
9.50—10.....	Singing.
10—10.30.....	Games.
10.30—10.45.....	Recreation.
10.45—11.10.....	Kindergarten Gifts.
11.10—11.30.....	Recitation, Singing, Modelling.
11.30—11.40.....	Singing.
11.35—12.....	Occupations, Games.
2—2.30.....	Sand Drawing.
2.30—2.50.....	Gifts, Occupations, Conversation.
2.50—3.....	Finger Plays.
3—3.10.....	Recreation.
3.10—3.30.....	Kindergarten, Colour Exercises.
3.30—3.50.....	Occupations.
3.50—4.....	Hymn and Prayer.

A MODEL INFANT SCHOOL TIME-TABLE.

9—9.30.....	Bible Stories (Texts, Hymns).
9.30—9.55.....	Nature Lesson (Gardening).
10—10.30.....	Reading.
10.30—11.....	Writing.
11—11.15.....	Play.
11.15—11.45.....	Number.
11.45—12.....	Swedish and Musical Drill and Marching.
2—2.30.....	Drawing, Sewing, Knitting, Doll Dressing.
2.35—3.....	Stories (Gardening).
3—3.10.....	Play.
3.10—3.40.....	Kindergarten Gifts and Occupations, or Country Walk.
3.40—4.10.....	Singing (Recitation).

A NEW YORK KINDERGARTEN AND INFANT CLASS.

[In the crowded parts of the city the schools are occupied by two different sets of children, one in the forenoon and the other in the afternoon.]

KINDERGARTEN No. I.

Part Time Class, Session 12.30-3.30.

Topic for Week—The Fall of the Year.

- 12.30—1.....Free play.The children are allowed to select their own occupation, and play with large blocks, toys, picture books, sand, and the second gift, or to draw on blackboard.
- 1—1.2.....Marching.With chairs to form circle.
- 1.2—1.20.....Circle.Songs.
Talk—Naming the day. Marking calendar by recalling something done on last day as a connecting link. The weather—Sunshine, clouds, time of year, falling leaves, leaves named.
- 1.20—1.25....Marching.With chairs to table.
- 1.25—1.45....Recess.
- 1.45—2.10....Gift.Blocks of fourth gift. Simple building form dictated. Free building.
- 2.10—2.40....Games.....Ring forming, marching.
Action — Flying, skipping, clapping to music, the fairy game.
Sense—"When we Play Together."
Social—Visiting game.
Ball—The bouncing game.
- 2.40—3.....Occupation I.....Drawing chair and table.
- 3—3.5.....Exercise.
- 3.5—3.25....Occupation II....Folding, cutting, and pasting lantern.
- 3.25—3.30....Closing exercises.

CLASS Ia.

Part Time Class, Session 12.30-4.15.

- 12.30—12.35....Opening Exercises.....Songs, Recitations.
- 12.35—12.55....Nature Study.....Dog.
- 12.55—1.10....Oral Number.....Counting to 10.
- 1.10—1.15....Physical Culture.....Setting up exercises.
- 1.15—1.35....Written Number.....1, 2, 3.
- 1.35—1.55....Reading.....Short sentences containing word *dog*.
- 1.55—2.5.....Reading to pupils.....Jack the Giant Killer.
- 2.5—2.15.....Recess.
- 2.15—2.30....Writing....."in."
- 2.30—2.35....Physical Culture.....Arm exercises, marching.
- 2.35—3.....Manual Training.....Object drawing—Radishes.
- 3—3.10....Music.....Scale exercises.
- 3.10—3.15....Physical Culture.....Arm exercises.
- 3.15—3.40....Reading or Number....Phonics, Reading, or Counting.
- 3.40—4.....Writing....."in."
- 4—4.15.....Conversation.....On nature work and stories told during day. Kindness to animals.

A HUNGARIAN KINDERGARTEN.

- 8—9.....Free play.
 9.30—10.....Conversation or Drill.
 10—10.30.....Marching Drill, etc.
 10.30—11.....Lunch.
 11—11.45.....Play in Garden.
 11.45—12.....Kindergarten Occupation.
 2—3.....Prayers, Scripture.
 3—3.30.....Games, Marching.
 3.30—4.....Conversation, etc.
-

A MUNICH KINDERGARTEN.

- 8—9.....Free play.
 9—10.....Morning Prayers, Circle Games.
 10—10.30.....Kindergarten Occupations.
 10.30—11.....Luncheon.
 11—11.30.....Occupations.
 11.30—12.....Games.
 2—2.30.....Games.
 2.30—3.....Occupations.
 3—4.....Lunch and Games.
-

A GERMAN KINDERGARTEN (EISENACH).

- 9.30—10.....Object Lesson in Garden or Story.
 10—10.30.....Lunch.
 10.30—11.....Games and Marching.
 11—11.30.....Building, Drawing, Mat Plaiting, etc.
 11.30—12.....Songs or Play in Garden.
 1.30—2.....Games, Embroidery.
 2—3.....Sewing, Play in Forest.
 3—3.30.....Ball play.
 (No afternoon session on certain days.)
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A FRENCH ÉCOLE MATERNELLE.

- 9—9.15.....Assemble, etc.
 9.15—10.15.....Reading, Writing, Speaking.
 10.15—10.45.....Games or Gymnastics.
 10.45—11.30.....Object Lessons or Stories.
 1—1.15.....Assemble, etc.
 1.15—1.45.....Reading, Speaking.
 1.45—2.30.....Reckoning.
 2.30—3.....Play.
 3—3.30.....Drawing, Moral Instruction.
 3.30—4.....Manual Work.

THE END.

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